VERITAS® Volume Manager Storage Administrator
Release Notes
Release 3.0.2 - Binary

PLEASE READ THIS BEFORE INSTALLING THE SOFTWARE!

Introduction

This document provides release and installation information for the VERITAS Volume Manager Storage Administrator Release 3.0.2. The Storage Administrator is the graphical user interface for the VERITAS Volume Manager™. This release of the Volume Manager Storage Administrator runs with Volume Manager Release 2.5 or higher.

The Volume Manager Storage Administrator consists of a server and a client. The Storage Administrator server must be run on a UNIX machine running Solaris Release 2.5.1 or higher. The Storage Administrator client can be run on any machine that supports the Java 1.1 Runtime Environment (including Solaris, HP-UX, Windows NT, Windows 98, or Windows 95). The Storage Administrator is compatible with both VRTSvxvm and SUNWvxvm packages.

The Storage Administrator server and client have been tested on Solaris Release 2.5.1 and higher. The Storage Administrator client has also been tested on Windows NT, Windows 98, and Windows 95.

Note: Before you install the packages, read this entire document.

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Getting Help

For license information or information about VERITAS® service packages, contact VERITAS Customer Support.

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New Features and Changes

> **Note:** Volume Manager Storage Administrator Release 3.0.2 is Year 2000 compliant. For additional information, see the Year 2000 certification statement on the VERITAS Web site (`www.veritas.com`).

The Storage Administrator has the following features:

- Ease of Use

  The Storage Administrator is a task-based user interface that provides access to tasks through menus or a task list. With the Storage Administrator, administrators can easily navigate and configure their systems. Administrators can use the Storage Administrator to browse through all of the objects on the system or view detailed information about a specific object.

- Remote Administration

  With the Storage Administrator, administrators can perform Volume Manager administration remotely or locally. The Storage Administrator client runs on UNIX or Windows machines.

- Java-Based Interface

  The Storage Administrator client is a pure Java-based interface. Administrators can run the Storage Administrator as a Java application or from a Web browser.

- Scalability

  The Storage Administrator can handle systems containing a large number of disks. Administrators can view all of the objects on the system or focus on a specific object or set of objects.

- Security

  The Storage Administrator can only be run by users with appropriate privileges. The administrator can restrict the use of the Storage Administrator to a specific set of users.

The following are minimum system recommendations for the Storage Administrator client:

Solaris:	SPARCstation 5 with 64M memory
Solaris x86:	100MHz Pentium (or similar) with 64M memory
HP-UX:	Hewlett-Packard D-class machine with 64M memory
Windows:	100MHz Pentium with 32M memory

The following changes have been made to the Storage Administrator since the Storage Administrator 1.0 release:

- The Storage Administrator server has been renamed to vmsa_server.

- The Storage Administrator client has been renamed to vmsa.

- The Move Subdisk task allows you to specify a disk offset and select a move policy.

- The toolbar has changed. The new toolbar contains several new buttons.

- The Create menu has been removed from the menu bar. The create object tasks are now located under the Console > New menu.

- The Add Disk and New Disk Group tasks allow you to specify the Volume Manager disk name for a disk.

- When running as an application, the Storage Administrator now saves user preferences in *user's_home_directory*/.vmsa/VMpreference.prf on the machine where the client is running. If you want to keep your existing preferences, you must copy your old preferences file (/var/opt/vmsa/*user_name*/preferences) to the new location *before* you use this release of the Storage Administrator.

  When running from a Web browser, the Storage Administrator still saves user preferences in /var/opt/vmsa/*user_name*/preferences on the machine where the server is running.

The following changes have been made to the Storage Administrator since the Storage Administrator 3.0 release:

- The Storage Administrator supports VERITAS QuickLog™, which improves file system performance. QuickLog is an optionally licensable product and is only available for the VERITAS File System™ (referred to as VxFS® or `vxfs`).

  Note that VERITAS QuickLog was previously known as VERITAS Accelerator. The Storage Administrator and its documentation still refer to QuickLog as the VERITAS Accelerator.

Installing and Starting the Storage Administrator

This section describes how to install and set up the Volume Manager Storage Administrator. The Storage Administrator server must be installed and run on a UNIX (Solaris) machine running the Volume Manager. The Storage Administrator client can be installed and run on any machine that supports the Java 1.1 Runtime Environment.

You can run the Storage Administrator client as an application or from a Web browser. However, it is recommended that you run the Storage Administrator as an application to avoid performance issues associated with Web browsers.

For information on how to upgrade from a previous release of the Storage Administrator, see "Upgrading the Storage Administrator."

Note: This release of the Storage Administrator requires Volume Manager Release 2.5 or higher. Before you install and run the Storage Administrator, you must install the Volume Manager and run vxinstall to initialize the Volume Manager.

Pre-Installation

Review the following items and make any appropriate changes *before* you install or upgrade the Storage Administrator:

- The following software must be installed and running on the machine to be administered by the Volume Manager Storage Administrator:

  - Solaris Release 2.5.1 or higher.

  - VERITAS Volume Manager Release 2.5 or higher. (The vxconfigd daemon must be running on the machine to be administered.)

  - The Volume Manager Storage Administrator server.

  - An HTTP server. (This is only necessary if you plan to run the Volume Manager Storage Administrator from a Web browser.)

- If an earlier Volume Manager Storage Administrator package is installed on the machine, remove the old Storage Administrator package before you install the new Storage Administrator package. See "Upgrading the Storage Administrator" for details.

The following table shows the suggested *minimum* space allowances for each package.

Package	Contents	Size
VRTSvmsa	Storage Administrator Server & Client (UNIX)	23M
VRTSsadoc	Storage Administrator Documentation	3M

The following table shows the approximate breakdown of the space requirements for each package against each file system.

Package	/	/usr	/opt
VRTSvmsa	0	0	23M
VRTSsadoc	0	0	3M

Storage Administrator Installation Overview

Set up and start the Storage Administrator as follows:

1. Install the Storage Administrator server and client on the machine to be administered. This must be a UNIX (Solaris) machine.
   (See "Installing the Storage Administrator Server and/or Client (UNIX).")

2. If users other than root need to access the Storage Administrator, set up security and specify which users can run the Storage Administrator.
   (See "Customizing Security (Optional).")

3. If you plan to run the Storage Administrator client from a Web browser, set up a HyperText Transfer Protocol (HTTP) server on the machine to be administered. (See "Setting Up the HTTP Server (Optional).")

   If you plan to run the Storage Administrator client as an application, you do not need to set up an HTTP server on the machine to be administered.

4. If you plan to run the Storage Administrator client from a machine other than the machine to be administered, install the Storage Administrator client on the machine where the client will run.
(See "Installing the Storage Administrator Server and/or Client (UNIX)" or "Installing the Storage Administrator Client (Windows).")

5. Start the Storage Administrator server on the machine to be administered. (See "Starting the Storage Administrator Server.")

6. Start the Storage Administrator client. (See "Starting the Storage Administrator Client.")

Installing the Storage Administrator Server and/or Client (UNIX)

Install the Volume Manager Storage Administrator server and client on a Solaris machine as follows:

1. Log in as superuser.

2. Install the Storage Administrator package:

   `pkgadd -d` *path*

   where *path* is the directory that contains the VRTSvmsa package.

   The Storage Administrator client can be installed with or without the Storage Administrator server. To install the Storage Administrator server, answer y(es) at the appropriate prompt. The Storage Administrator package also contains an optional Web server package. At the appropriate prompt, indicate whether the Web package should be installed.

   The Storage Administrator package (UNIX) contains the following directories:

Directory	Contents
httpd/	apache_1.2.0.tar.Z – Apache HTTP server (optional)
jre/	Java Runtime Environment (JRE)
bin/	vmsa_server – Storage Administrator server startup script vmsa – Storage Administrator startup script

Directory	Contents
vmsa/	`java/vmsa.jar` – Storage Administrator class archive `java/images/` – Storage Administrator image `.gif` files `java/help/` – Storage Administrator help files `server/` – Storage Administrator server libraries and properties `index.html` – Storage Administrator applet HTML page
man/	Volume Manager Storage Administrator manual pages

3. Go to the directory where you installed the Storage Administrator (`/opt/VRTSvmsa`, by default).

4. Set the VMSAHOME environment variable:

   `export VMSAHOME=`*Storage_Administrator_directory*

   where *Storage_Administrator_directory* is the directory where you installed the Volume Manager Storage Administrator.

5. Update your PATH environment variable to include the directory containing the Storage Administrator startup scripts:

   `export PATH=$PATH:$VMSAHOME/bin`

Installing the Storage Administrator Client (Windows)

The Volume Manager Storage Administrator client runs on Windows NT, Windows 98, or Windows 95 machines. If you plan to run the Storage Administrator from a Windows machine, install the optional Windows package after you have installed the Storage Administrator server and client on a UNIX machine.

Before you install the Storage Administrator on a Windows machine, you must uninstall any existing Storage Administrator packages on that machine. Only one Storage Administrator package can be installed on a Windows machine at any given time.

Install the Storage Administrator client on a Windows machine as follows:

1. Log in as administrator.

2. Insert the CD-ROM containing the Volume Manager Storage Administrator.

3. Using Windows Explorer or a DOS Command window, go to the win32 directory and execute the setup.exe program.

4. Follow the instructions presented by the setup.exe program.

5. After installation is complete, do one of the following for environment changes made during installation to take effect:

   • For Windows NT, log out and then log back in.

   • For Windows 98 or Windows 95, restart the computer.

Customizing Security (Optional)

The Volume Manager Storage Administrator can only be run by users with appropriate privileges. By default, only root can run the Storage Administrator.

After you install the Storage Administrator, you can specify which users will have access to the Storage Administrator. To set up a list of users with permission to use the Storage Administrator, add a group named vrtsadm to the group file (/etc/group) or NIS (Network Information Name Service) group table on the machine to be administered. The vrtsadm group should include the user names of any users (including root) who will have access to the Storage Administrator.

Example:

```
vrtsadm::999:root,joe,bill
```

If the vrtsadm group does not exist, only root has access to the Storage Administrator. If vrtsadm exists, root must be included in vrtsadm in order for root to access the Storage Administrator.

Changing the Group Name (Optional)

vrtsadm is the default VERITAS group name. However, you can change vrtsadm to another name by setting the vrts.server.adminGroup property to another value. You can reset the VERITAS group name by adding the following to the java command at the end of the /opt/VRTSvmsa/bin/vmsa_server file:

-Dvrts.server.adminGroup=*new_groupname*

Monitoring Access to the Volume Manager Storage Administrator

Once you have set up security for the Volume Manager Storage Administrator, you can monitor access to the Storage Administrator by reviewing the contents of the access log file. By default, the access log file is `/var/opt/vmsa/logs/access`. This file contains entries similar to the following:

```
Fri Jan 23 10:22:17 PST 1998: user xyz login succeeded

Fri Jan 23 10:59:52 PST 1998: user xyz login failed with error
"User password invalid"
```

Entries for failed access may be logged multiple times. This is due to a security requirement and is not an error.

Setting Up the HTTP Server (Optional)

If you plan to access the Volume Manager Storage Administrator via a Web browser, you must set up and run an HTTP server on the machine to be administered. If an HTTP server is not set up on the machine to be administered, you can install the Apache HTTP server provided in the Storage Administrator package. However, you can use any other HTTP server.

Install and set up the Apache HTTP server as follows:

1. Go to the HTTP server directory.

2. Uncompress and unpack the `apache_1.2.0.tar.Z` file:

   ```
   uncompress apache_1.2.0.tar.Z

   tar xvf apache_1.2.0.tar
   ```

3. Read the README file in the top-level Apache directory.

   For more detailed instructions on how to set up the Apache HTTP server, refer to the README file in the top-level Apache directory and the documentation on the Apache Web site: `http://www.apache.org/docs`.

4. Go to the `htdocs` directory.

5. Link the following directories:

   ```
   ln -s $VMSAHOME/vmsa vmsa
   ```

6. Go to the `conf` directory.

7. Copy all files named *file*.`conf-dist` to *file*.`conf`.

8. Edit the `httpd.conf` and `srm.conf` configuration files for your HTTP server.

   Make the appropriate changes to the following entries in the `httpd.conf` file:

   - `ServerAdmin`

   - `ServerRoot`

   - `ServerName`

   In the `srm.conf` file, set `DocumentRoot` to the path to the `htdocs` directory:

   ```
   DocumentRoot /opt/VRTSvmsa/httpd/apache_1.2.0/htdocs
   ```

9. Start the HTTP server.

Starting the Storage Administrator Server

In order to use the Volume Manager Storage Administrator, the Storage Administrator server must be running on the Solaris machine to be administered. Once started, the Storage Administrator server should run continuously and should not be stopped. Only one instance of the Storage Administrator server should be running at a time.

Start the Storage Administrator server manually as follows:

1. Log in as superuser.

2. Go to the directory where the Storage Administrator is installed:

   ```
   cd $VMSAHOME/bin
   ```

3. Start the server:

   ```
   ./vmsa_server &
   ```

A file named server.log will be created in the /var/opt/vmsa/logs directory. If the server starts successfully, this file should contain the following (after a few seconds):

```
rebound //host:2410/vrts.remote.vrtsServer
```

You can use the following command to confirm that the Storage Administrator is running:

```
vmsa_server -q
```

If you need to stop the Storage Administrator server for some reason, use this command:

```
vmsa_server -k
```

Note: Once the Storage Administrator is installed, the Storage Administrator server starts up automatically at system startup.

Starting the Storage Administrator Client

Note: Only users with appropriate privileges can run the Storage Administrator. Refer to the section "Customizing Security (Optional)" for information on Storage Administrator security and access permissions.

The Volume Manager Storage Administrator can administer the local machine or a remote machine. However, Volume Manager 2.5 (or higher) and the Storage Administrator server must be installed on the machine to be administered. The Volume Manager daemon (vxconfigd) and the Storage Administrator server must be running on the machine to be administered.

After installing the Volume Manager and the Storage Administrator and starting the server, you can run the Storage Administrator in one of the following ways:

▼ Starting the Storage Administrator as an application

UNIX

▼ To administer the *local* UNIX machine, type:

    vmsa

Make sure that the Session Initiation dialog box contains the local machine name.

▼ To administer a *remote* UNIX machine, type:

    vmsa   *remote_machine_name*

Make sure that the Session Initiation dialog box contains a remote machine name.

Windows

▼ To administer a *remote* UNIX machine, choose Start > Programs > VERITAS Volume Manager Storage Administrator > VERITAS Volume Manager Storage Administrator.

Specify the remote machine name in the Session Initiation dialog box.

▼ Starting the Storage Administrator from a Web browser

Note: Although you can run the Storage Administrator from a Web browser, it is recommended that you run it as an application. Due to the nature of Web browsers, running the Storage Administrator from a Web browser can significantly slow down response time.

If you want to access the Storage Administrator via a Web browser, you must set up and run an HTTP server on the machine to be administered. See "Setting Up the HTTP Server (Optional)" for details.

▼ To access the Storage Administrator from a Web browser, start the browser and then go to the following location (URL):

`http://`*machine_name*`/vmsa/index.html`

Click on the VERITAS Volume Manager Storage Administrator link in the browser window. Specify the appropriate machine name in the Session Initiation dialog box.

The default `index.html` file provides access to a single host and starts the Storage Administrator applet immediately. This release includes two additional HTML files, `vmsa2.html` and `vmsa3.html` (located in the same directory as `index.html`). These sample files provide access to multiple hosts and load the Storage Administrator applet on request. You can customize the Storage Administrator startup behavior by editing one of these files. Each file contains comments that describe the changes you need to make to customize the file for your environment.

The Storage Administrator uses the Java Development Kit (JDK) version 1.1. Currently, the only browsers that fully support JDK 1.1 are:

• HotJava 1.0 or higher

You can download HotJava from `http://www.javasoft.com`.

Before you run the Storage Administrator from HotJava, set Medium Security for Unsigned Applets (Edit > Preferences > Applet Security). If security is needed, make sure that the `CLASSPATH` environment variable is set to `/opt/VRTSvmsa/vxvm/java` (UNIX) or `%VMSAHOME%\vxvm\java` (Windows).

If security is not needed, you can disable Storage Administrator security by setting the `vrts.security` property to `false` in the `/opt/VRTSvmsa/vxvm/properties` file and changing the `security` parameter value to `false` in the Storage Administrator `index.html` file.

- Netscape 4.0*x* or higher with JDK 1.1 support

  You can download Netscape from `http://www.netscape.com`.

  Before you run the Storage Administrator from Netscape, add the following to your `preferences.js` (UNIX) or `prefs.js` (Windows) preferences file:

  ```
  user_pref("signed.applets.codebase_principal_support", true);
  ```

Note: You must exit *all* instances of Netscape before you modify the user preferences file. Otherwise, your changes to the preferences file will be overwritten when Netscape exits.

Running the Storage Administrator in Read-Only Mode

The Volume Manager Storage Administrator server can be configured in a read-only mode that is useful for monitoring or browsing purposes. Read-only mode allows the administrator to view objects on the system through the Storage Administrator, but prevents administrative actions from taking effect. This mode is enabled via the properties file (`/opt/VRTSvmsa/vmsa/properties`).

To start the Storage Administrator server in read-only mode, add the following line to the properties file:

```
vrts.server.readonly=true
```

To restore the Storage Administrator server to full operational mode, use the following line:

```
vrts.server.readonly=false
```

Note: You must stop and restart the server for this change to take effect.

The default mode for the Storage Administrator is full operational mode.

Upgrading the Storage Administrator

If a previous release of the Storage Administrator is already installed, you need to remove the previous VRTSvmsa package and then add the current VRTSvmsa package. Upgrade the Storage Administrator as follows:

1. Remove the previous VRTSvmsa package with the command:

   pkgrm VRTSvmsa

2. Follow the instructions in "Installing the Storage Administrator Server and/or Client (UNIX)" to add the current VRTSvmsa package.

Note: The Storage Administrator Release 3.x server is not backward compatible with Storage Administrator Release 1.x clients, so you must upgrade any existing client(s) to Release 3.x.

Documentation

The following online documents accompany this Volume Manager Storage Administrator release:

- *VERITAS Volume Manager Storage Administrator Release Notes* - Binary (this document). The Release Notes are located in the top-level directory.

- *VERITAS Volume Manager Storage Administrator Administrator's Guide.* The Administrator's Guide is located in the VRTSsadoc package, which is installed in /opt by default.

- Online help files. To access the online help files, click Help in a dialog box or select the appropriate item from the Help menu.

- Manual pages.

Software Problems Fixed in Storage Administrator Release 3.0.2

The following problems have been addressed in this release of the Volume Manager Storage Administrator:

[27994]   Removal of the last plex in a volume is no longer allowed.

[28463]   The Task Properties window now uses scrollbars in text areas when needed.

[28469]   A wait cursor is now shown during updates to the Volume Layout Details window.

[29305]   If the mouse was clicked too fast, duplicate entries could appear in the main window tree.

[29573]   A problem where Java exceptions occurred when subdisks were collapsed in the Volume to Disk Mapping window was fixed.

[29733]   A space allocation problem occurred when a controller was specified for volume creation.

[29917]   An error where disconnected disks could not be replaced has been corrected.

[29918]   An error where disconnected disks were not properly displayed has been corrected.

The following problems were addressed in Storage Administrator Release 3.0.1:

[27972]   Previously, the amount of space displayed in the Free Space field of the Disk Group Properties window included space on disks marked as "reserved" disks. The free space no longer includes space set aside on reserved disks.

[28006]   The Storage Administrator now shows an alert for failing disks.

The following problems were addressed in Storage Administrator Release 3.0:

[17410]   The Storage Administrator did not provide a way to mount unmounted file systems that were not on volumes.

[19316]	The undocked toolbar did not always redraw correctly the first time it was undocked.
[21066]	The splitter cursor could be displayed incorrectly on Windows.
[21082]	Modal dialogs were not modal when running under the Motif Window Manager (mwm).
[22489]	Changing the disk group name in the Create Volume dialog box did not update the default volume name.
[22601]	Volume and file system resize calculations did not work properly in the Windows version of the Storage Administrator. The Add By and Subtract By fields of the resize dialog boxes are not supported in the Windows version of the Storage Administrator. To resize a volume or file system, you must specify the desired size.
[22755]	Java memory leaks could occur when the Storage Administrator client was run for an extended period of time.
[23338]	Double-clicking on objects in the Volume Layout Details window did not work when running the Storage Administrator with the Motif Window Manager (mwm).
[23805]	The % Complete column in the Task Request Monitor window did not get updated.
[24012]	A bug in Java 1.1.5 and 1.1.6 causes the main window to resize itself when an object is selected and the Selected menu renames itself. The Storage Administrator is now shipped with Java 1.1.7, which does not have this problem.
[24103]	For year 2000 compliance, the Storage Administrator now displays years as four digits. In previous releases, the Task Request Monitor and Task Properties windows displayed years as two digits. The dates are used for display purposes only.
[24996]	When the Storage Administrator client and server were in different time zones, the Storage Administrator's command log file logged the client's time instead of the server's time.
[25075]	When a volume was removed, volumes with similar names could be removed from the /etc/vfstab file.

[25230] A Java error resulting from using the Mount File System dialog has been corrected.

[25302] A file system's mount point could not be changed after the file system was added to a volume.

[25304] When a striped layout was selected in the Create Volume dialog, clicking the Maxsize button could cause the number of columns and stripe unit size to change.

[none] The Storage Administrator did not support configuration of the Dynamic Multipathing (DMP) feature.

Software Limitations and Problems in Storage Administrator Release 3.0.2

The following problems and issues exist in this release of the Volume Manager Storage Administrator:

[17772]   The Volume Manager Storage Administrator does not support destroying deported disk groups.

           Workaround: Import the disk group, then destroy it.

[18338]   The Volume Manager Storage Administrator does not allow the user to specify volume usage types.

[21512]   The Volume Manager Storage Administrator applet does not start up in HotJava when security is enabled.

           Workaround: Set the CLASSPATH environment variable to: CLASSPATH=/opt/VRTSvmsa/vxvm/java

[21739]   With Solaris 2.5.x, the Storage Administrator server (vmsa_server) needs to be restarted whenever vxconfigd is reset, stopped and restarted, or disabled and enabled.

[22456]   The Maxsize operation always returns sizes in sectors.

[22482]   The Volume Manager Storage Administrator server can hang on Solaris while waiting for ncsd(1M) to reply to a name service lookup. This can occur when the system is set up for DNS and a DNS server is not set up.

           Workaround: Remove the dns entry from the hosts: files dns line in the /etc/nsswitch.conf file.

[22730]   Online help is not supported for non-English locales. If the user's $LANG environment variable is set to a non-English value, the online help files can have problems printing and following their hyperlinks.

           Workaround: Create a symbolic link:
           cd /opt/VRTSvmsa/vxvm/java
           ln -s help help_*locale*

           where *locale* is the appropriate locale abbreviation.

[22752]   On Windows, attempts to print online help are silently ignored if there is no default printer on the system.

[23730]   The splitter cursor does not always go away. This can prevent the wait cursor from being displayed. This problem is caused by a Java bug.

            Workaround: Move the cursor outside the main window and then back into the main window.

[24701]   When bringing up a dialog box such as a disk/space allocation dialog box, a message similar to the following may appear:

```
Warning:
    Name: scrollbar
    Class: XmScrollBar
    The scrollbar page increment is less than 1.
```

            This message can be ignored.

[25080]   The Storage Administrator does not run with HotJava 1.1.4.

[25089]   If you remove a Volume Manager Storage Administrator 1.x package and then install a Storage Administrator 3.x package, the new Storage Administrator server may not start properly.

            Workaround: Before you remove the Storage Administrator 1.x package, run `server.sh -k` to stop the 1.x server.

[25361]   When the window manager's interactive placement setting is turned on, Storage Administrator windows may not be sized properly. The windows may be very small or very large.

            Workaround: Turn off the interactive placement setting. Example:

```
Mwm*interactivePlacement: False
```

[26304]   Dragging the toolbar to a new location or moving the mouse button over the toolbar may result in an exception. This exception can be ignored.

[26269]   Menu shortcuts only work when input focus is in the tree or grid. To enable shortcuts, select an item in the tree or grid.

[27291]	Under some circumstances, moving the mouse over a toolbar button may result in an exception. If this happens, the status area may not display the correct toolbar button description.
[27348]	When the Storage Administrator is run with the fvwm window manager, window decorations appear above top of screen.
[27349]	When the Volume to Disk Mapping window is updated, the contents of the window may become inaccurate. **Workaround:** Close the Volume to Disk Mapping window and then reopen it.
[29621]	When adding disks, the order in which the Volume Manager disk names are assigned may not match the order of the selected or specified devices. The disks are processed in the order in which they appear in the grid.
[none]	To prevent core dumps on NCD terminals, the jre/lib/font.properties file has been renamed to font.properties-. On some machines, this has a negative effect on the appearance of default fonts for online help and other text areas. If you *do not* use NCD terminals, you can improve the appearance of these fonts by renaming font.properties- to font.properties.
[none]	The Volume Manager Storage Administrator does not support statistics and analysis.
[none]	The following X Window System error may occur when starting the Storage Administrator:

```
Xlib: connection to "hostname:0.0" refused by server
Xlib: Client is not authorized to connect to Server
java.lang.InternalError: Can't connect to X11 window
 server using hostname:0.0'as the value of the DISPLAY
 variable.
  at sun.awt.motif.MToolkit.<init>(MToolkit.java:48)
  at java.awt.Toolkit.getDefaultToolkit(Toolkit.java:244)
```

Workaround: Type xhost + [*hostname*] to allow X server access.

| [none] | If a volume with an unmounted file system is resized, the file system may not be resized. |

[none]   If you unpack and uncompress the Apache tar file included with this release, package remove scripts will not remove the resulting files. However, package remove scripts will remove the Apache tar file.

[none]   To run the Storage Administrator from Netscape, the UniversalConnect privilege must be granted. Once UniversalConnect is granted, be very careful when browsing the Internet. You will always be prompted by Netscape Communicator when an unknown applet attempts to enable privileges. Any codebase principal you run across should be considered suspect, as there is no way to verify the identity of its creator or even the integrity of the bits as they travel from the host machine to your own.

[none]   Although you can run the Storage Administrator from a Web browser, it is recommended that you run it as an application instead. Due to the nature of Web browsers, running the Storage Administrator from a Web browser can slow down response time significantly.