



# **Intel® Storage Server SSR212MC2**

## ***StorView\* Enclosure Management Software User Guide***

Intel Order Number: D90835-001

**Revision 1.1**

**April, 2007**

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## *Revision History*

<b>Date</b>	<b>Revision Number</b>	<b>Modifications</b>
February, 2007	0.75	Initial Draft (review copy)
March, 2007	0.85	Updated graphics and formatting
March, 2007	0.9	Incorporated feedback
March, 2007	1.0	Release version
April, 2007	1.1	Added additional start up notes

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# 1. Introduction

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StorView\* Enclosure Management Interface is an information and monitoring tool for the Intel® Storage Server SSR212MC2 and SSR212MC2R.

StorView is also designed to work with supported hard disk enclosures (JBODs) directly attached to an HBA that supports SES (SCSI Enclosure Services). It is a component within the StorView Storage Management Software.

## 1.1 System Requirements

Supported Enclosures:

- Xyratex\* RS-1603
- Xyratex RS-1220

Supported HBAs:

- See Intel Storage Server SSR212MC2 Tested Hardware and OS List (THOL)

Supported Operating Systems:

- See Intel Storage Server SSR212MC2 Tested Hardware and OS List (THOL)

**Note:** only 32 bit operating systems are supported by StorView\* Enclosure Management Software

## 1.2 Startup Notes

### Linux sg Driver

Use of the software on Linux requires the SCSI Generic (sg) driver to be loaded. If it does not show up in the list generated by the `lsmod` command, it can be inserted into the running kernel by typing: `/sbin/modprobe sg`.

To have the sg module loaded at boot time, add the following line to the `/etc/rc.local` file:  
`/sbin/modprobe sg > /dev/null 2>&1`

### Internet Explorer Enhanced Security Configuration

Internet Explorer Enhanced Security Configuration must be disabled before using this application. This can be done via the Windows Add/Remove Programs function.

### Network Failover

If you are running the system with more than one network interface, failover will not occur if one network port is disconnected/disabled. For failover to the other network interface you will need to restart the StorView service.

## 2. User Interface

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The main window consists of the following tabbed windows, organized by task. Not all tabs are available on all systems - only the appropriate information is shown.

- Graphical View (page 9)
- Tree View (page 11)
- System Report (page 12)
- System Settings (page 14)
- Network Settings (page 15)

The Workspace also includes an **Events Pane** (page 16) which lists any occurrences in the system that may need attention, such as the failure of a drive.

### 2.1 Context Menus

Many of the objects have an associated context menu, allowing you to select functions appropriate to that object.



Usually the context menu is brought up by using the right mouse button, but this may vary depending on the operating system in use - consult your OS documentation for details

### 2.2 Tooltips

Tooltips are available for almost every object, graphic and control. Hover the mouse over the object of interest and after a short while a tooltip will pop up with extra information about it.

### 2.3 Selecting Objects

There are many ways to select objects (drives, enclosures, controllers, etc.) in the Workspace. The rules for selecting objects are similar to those of many popular graphical file managers:

- A single click of the mouse will select the current object and de-select all other objects in the window.
- Holding the Ctrl key while clicking will select (or de-select) the current object, leaving the state of the others unchanged.
- Holding the Shift key while clicking will select all of the objects between the current object and the last object selected (some views do not support use of the Shift key).

Selected objects have a dark blue border. Grayed-out objects cannot be selected (usually because they are already in use).



## 2.4 Graphical View

The Graphical View shows a physical representation of the enclosures and their components:




The quick way to get information on a component is simply to hover the mouse over it. A large tooltip will appear giving the relevant data.

Components are selected using the standard selection rules. An enclosure can be selected by clicking on the edge of the graphic.

Highlighting of components follows this convention:

 Dark blue border - Component is selected.

 Red border - Component is faulty.

 Yellow border - A sub-component is faulty.

Clicking on the **Front/Rear View** button shows the reverse of the enclosure, allowing selection of other components and additional informative tooltips:



The **Show Side Panel** checkbox toggles the Side Panel (see below).

 Adjusting the **Zoom** slider allows the entire display to be scaled up or down.

The **Animate** checkbox toggles all animated features in the display (fans, LEDs, etc.).

The **Mute System Speaker** checkbox silences the speaker in the host system (the one running the application). If the box is not checked, the speaker will sound whenever the alarm of any enclosure in the system sounds.

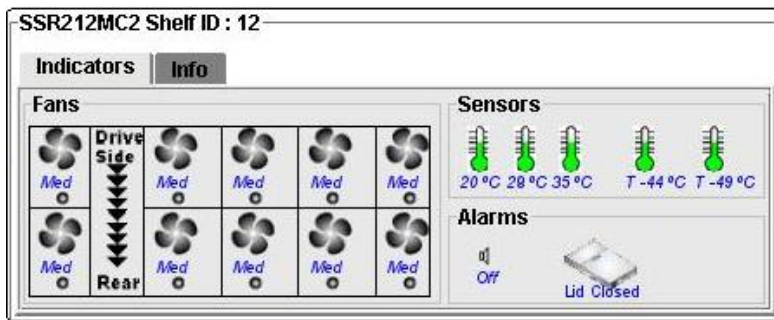
If the **Close Tooltip on Timer** checkbox is checked, tooltips will automatically disappear after a while. Otherwise tooltips will remain until the mouse pointer is moved away from the control.

The **context menu** (see "Context Menus" on page 8) gives the following options (text in brackets shows what type of component, if any, must be selected for the menu option to be available):

- Identify Selected Drives (page 18) (drive)
- View VPD Data (page 16) (drive)
- Upgrade Drive Firmware (page 22) (drive)
- Download ESI Firmware (page 11) (controller)
- Set Alarm State (page 22) (enclosure)
- Change Enclosure Name (page 17) (enclosure)
- Rescan Enclosures (page 21)
- License Manager (page 12)
- Save Configuration to File (page 21)
- Tip of the Day - Displays an informative tip.
- Help Topics - Displays the on-line help.

## Side Panel





To the right of each enclosure is the Side Panel, which shows information about the selected enclosure, including some things not available in the main display (such as environmental status):



**Note:** For attached JBODS, depending on how the enclosure's SES (SCSI Enclosure Services) behaves, some components may be aggregated. For example it is quite common for several temperature sensors to be reported as one.

Two tabs are shown in the window:



The **Indicators** tab shows a number of icons:

-  The **Controller** icons show the status of the controllers (attached JBODS only).
-  The **Fan** icons will rotate if the fans are operating correctly (or they will be marked "OK" if **Animate** has been turned off). Below each fan is the text "slow", "med" or "fast". This is not an indication of an error, simply a rough measure of the fan speed.
-  The **Alarm** icon shows whether the enclosure beeper is sounding.
-  The **Sensor** icons represent the temperature sensors and are marked with the current temperature in degrees Celsius. The barometer will be green for normal operation, blue and low if the temperature is below the lower threshold, or red and high if the temperature exceeds the upper threshold.









➤ The **Lid** icon (only shown on enclosures with a removable top lid) shows whether the enclosure lid is open or closed.

The **Info** tab gives information about the selected component. If multiple components are selected, information will be given for the most recently selected component.

## 2.5 Tree View

The Tree View shows a hierarchical view of the system, using icons and text. Clicking on the  icon next to an enclosure expands that branch of the tree, showing all the components contained within the enclosure. Similarly, clicking the  icon will collapse the branch (reducing screen clutter by hiding components that are not of interest).

The following icons are used to represent system components:

	Enclosure
	Controller
	Disk Drive
	Front (Ops) Panel
	PSU
	Fan
	Fan Tachometer Sensor
	Temperature Sensor

The quick way to get information on a component is simply to hover the mouse over it. A tooltip will appear giving the relevant data.

Double-clicking on the root of the tree view will expand all branches in the tree.

The **context menu** (see "Context Menus" on page 8) gives the same options that are given in the Graphical View (text in brackets shows what type of component, if any, must be selected for the menu option to be available):

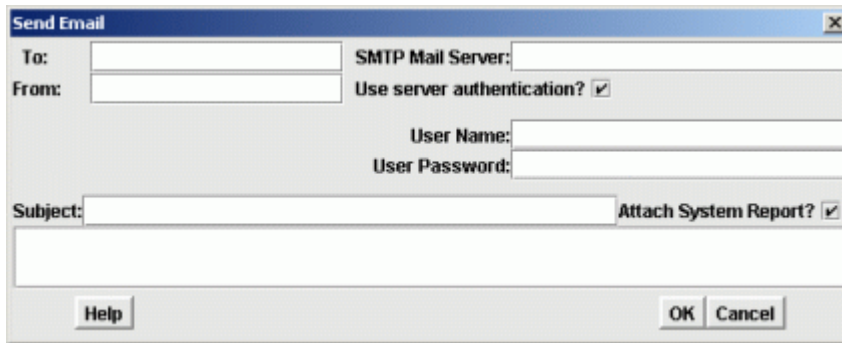
- Identify Selected Drives (page 18) (drive)
- View VPD Data (page 23) (drive)
- Upgrade Drive Firmware (page 22) (drive)
- Download ESI Firmware (page 17) (controller)
- Set Alarm State (page 22) (enclosure)

- Change Enclosure Name (page 17) (enclosure)
- Rescan Enclosures (page 21)
- License Manager (page 18)
- Save Configuration to File (see “Save Configuration” page 21)
- Tip of the Day - Displays an informative tip.
- Help Topics - Displays the on-line help.

## 2.6 System Report

The System Report gives a detailed summary of all physical components in the system. This can then be stored locally as an HTML file using the **Save** button or sent to the printer using the **Print** button. Any text entered in the **Enter User Comment** field is output at the top of the file or printout when the **Insert** button is clicked.

The **Email** button brings up the following window:



The fields are as follows:

- **To** - The recipient of the e-mail.
- **From** - The sender of the e-mail (this can be anything as long as it is a properly formed e-mail address).
- **SMTP Mail Server** - The e-mail address of the mail server to be used when routing the message.
- **Use Server Authentication** - Check this box if the SMTP server requires a user name and password.
- **User Name** - The user name (if required) to use the mail server (only shown if **Use Server Authentication** is checked).
- **User Password** - The password (if required) to use the mail server (only shown if **Use Server Authentication** is checked).
- **Subject** - The "subject" line of the e-mail.
- **Attach System Report** - If checked, the System Report will be appended to the e-mail message.
- The text area at the bottom of the window can be filled with anything - it will form the body of the e-mail.

## 2.7 System Settings

This pane shows system information and allows some parameters to be changed.

**Overall Details :**

<b>Current Settings :</b> Server Name : <input type="text"/> Server Time : 04:17:08 PM <input type="button" value="..."/> Server Date : 02-27-07 <input type="button" value="..."/> <small>Please edit advanced features (including timezone) via Operating System</small> <input type="button" value="Save"/>	<b>System Drive Status :</b> <table border="1"> <tr> <td> <b>Drive 0 :</b>            WWN : 5000C50000C21A85            Serial : 3NP023KB            Product ID : ST973402SS            Firmware Version : F901            Size : 68.37 GB         </td> <td> <b>Drive 1 :</b>            WWN : 5000C50000C1F5F5            Serial : 3NP0311C            Product ID : ST973402SS            Firmware Version : F901            Size : 68.37 GB         </td> </tr> </table>	<b>Drive 0 :</b> WWN : 5000C50000C21A85 Serial : 3NP023KB Product ID : ST973402SS Firmware Version : F901 Size : 68.37 GB	<b>Drive 1 :</b> WWN : 5000C50000C1F5F5 Serial : 3NP0311C Product ID : ST973402SS Firmware Version : F901 Size : 68.37 GB
<b>Drive 0 :</b> WWN : 5000C50000C21A85 Serial : 3NP023KB Product ID : ST973402SS Firmware Version : F901 Size : 68.37 GB	<b>Drive 1 :</b> WWN : 5000C50000C1F5F5 Serial : 3NP0311C Product ID : ST973402SS Firmware Version : F901 Size : 68.37 GB		

**Advanced Details :**

**System Information :**

Number of Processors: 4  
 Processor Architecture: x86  
 Processor Level: 6  
 Processor Revision: 3846  
 Processor Type: 586

**Firmware :**

Enclosure Firmware Revision :11BP   
 PMC Firmware Revision :01A

### Current Settings:

- Server Name - The name of the system. Type a new string to change the system name.
- Server Time - The current time according to the system clock. To change it, double click on the desired region (hours, minutes, seconds) and use the buttons to adjust the value.
- Server Date - The current date according to the system clock.
- Time Zone - The UTC time zone. To change, click the combo box and select a new time zone.

Any changes made to the Current Settings will only be stored after clicking the **Save** button.

### System Drive Status:

- Shows information for one or more system drives.

### System Information:

- Shows various useful system details, such as RAM, operating system version and system uptime.

### Operations:

- The **View System Log** button displays a new window listing events in the system log.

### Firmware:

- Enclosure Firmware Revision
- PMC\* Firmware Revision

Either of these can be updated by clicking the appropriate **Upgrade** button.

## 2.8 Network Settings

Each network port in the system is given an entry:

The screenshot displays two network port configuration panels, Port 0 and Port 1. Each panel is divided into three sections: Current Settings, IP Settings, and Operations.

**Port 0:**

- Current Settings:** Type: Intel(R) PRO/1000 EB Network Connection with I/O Acceleration; Status: disconnected; Speed (Mb/S): 1000; MAC Address: 00-15-17-0F-32-11; Enabled?: true; StorView using this port?: false.
- IP Settings:** DHCP? (unchecked); IP Address: x.x.x.x; Netmask: x.x.x.x; Default Gateway: x.x.x.x; DNS Servers: Details.
- Operations:** Disable Port, Apply Settings.

**Port 1:**

- Current Settings:** Type: Intel(R) PRO/1000 EB Network Connection with I/O Acceleration #2; Status: connected; Speed (Mb/S): 1000; MAC Address: 00-15-17-0F-32-10; Enabled?: true; StorView using this port?: true.
- IP Settings:** DHCP? (unchecked); IP Address: 10.1.1.111; Netmask: 255.0.0.0; Default Gateway: ; DNS Servers: Details.
- Operations:** Disable Port, Apply Settings.

The Current Settings shows configuration and status data for the network port.

The IP Settings section allows configuration of the port's network settings:

- DHCP - If checked, the port will use Dynamic Host Resolution Protocol to receive network information from a central DHCP server. The IP Address, Netmask and Default Gateway fields will be grayed out.
- IP Address - The IP address of the port in dotted decimal format (for example, 10.0.7.18).
- Netmask - The subnet mask in dotted decimal format (for example, 255.255.240.0).
- Default Gateway - The IP address of the gateway used to access the internet, in dotted decimal format (for example, 10.0.0.1).
- DNS Servers - Click the Details button to display a window in which the primary and secondary Domain Name Server addresses can be specified, in dotted decimal format (for example, 10.0.0.100).

The DNS Servers dialog box is shown with the following fields:

- Primary DNS: 10.0.0.100
- Secondary DNS: 10.0.0.101

Buttons: Cancel, Save.

Click **Apply Settings** to change any of these networking parameters.

In the Operations pane, click **Disable Port** to stop all traffic to and from the port. The Enabled parameter in the Current Settings pane will now show "false" instead of "true" and the button will be re-labelled **Enable Port**. Click again to re-enable the port.

## 2.9 Events Pane

An Events Pane is situated at the bottom of each Workspace window and shows a table of occurrences on the system that may be of interest to the user (see the **Events List** (on page 27) for details).

Time	Source	Item ID	Severity	Status
October 06 2006 11:17:41	Drive Removed	DRIVE 1 0	INFO	
October 06 2006 11:17:43	SES Interface Removed	DRIVE 1 0	INFO	
October 06 2006 11:17:43	SES Interface Added	DRIVE 1 15	INFO	
October 06 2006 11:17:43	Drive Added	DRIVE 1 0	INFO	

The information for each event is divided into a number of columns:

- **Time** - The date and time (to the nearest second) at which the event occurred, according to the controller clock.
- **Source** - A description of the event.
- **Item ID** - Some text identifying the component to which the event relates.
- **Severity** - An indication of how serious the event is: "info", "warning", or "critical".
- **Status** - Shows any new values or updated information as a result of the event.

The list appears in strict time order, with the latest event appended at the bottom of the list. The size of each column can be changed by clicking and dragging on the border between the headers.

A **context menu** (see "Context Menus" on page 8) gives the following options:

- **Clear Table** - removes all entries from the event list.

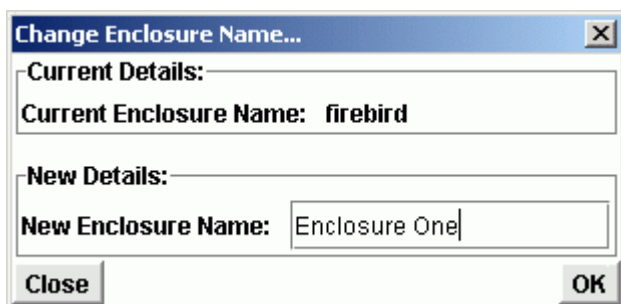
## 3. List of Functions

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This section gives a complete list of program functions in alphabetic order.

### 3.1 Change Enclosure Name

This function allows the label associated with the enclosure to be changed.



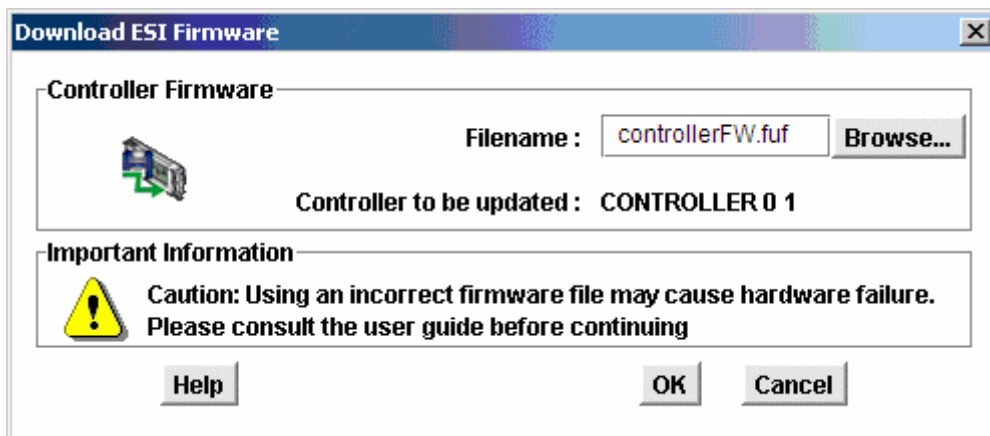
Type the new name in the edit box and click **OK** to change it.

### 3.2 Download ESI Firmware

This function can be used to update the firmware of a system using a file on the local hard disk.

**Warning:** Using an inappropriate or incompatible firmware file may result in the system becoming inoperable.

Before clicking this option a single controller must be selected in the **Graphical View** (on page 9). The following window appears:



The default directory for the firmware file is the server installation directory on the client computer. Click **OK** to update the firmware. Any subsequent actions will be prevented until the procedure is complete.

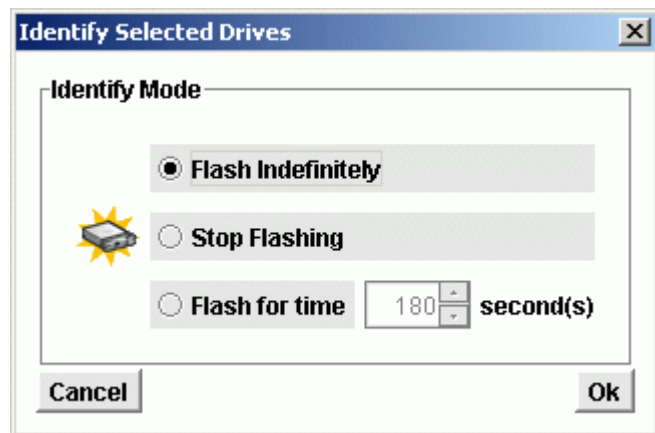
After updating the firmware you must reboot the controller.



### 3.3 Identify Selected Drives

Before clicking this option one or more drives must be selected in the **Graphical View** (on page 9).

Several options are given for flashing the LEDs on the front of the drive carriers. This is helpful when trying to identify which drive objects in the user interface correspond to which physical drives.



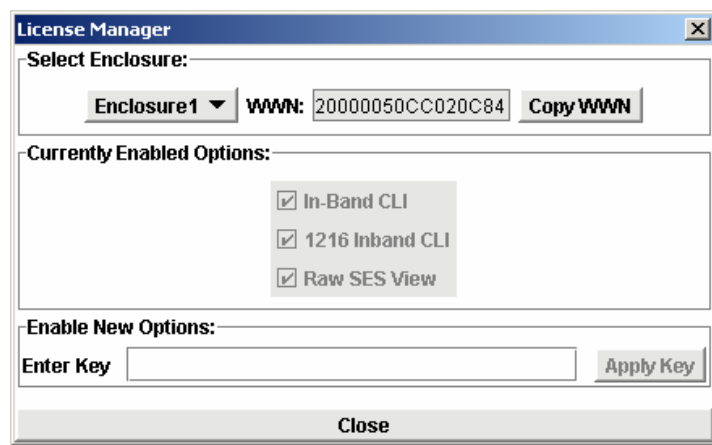
The options are as follows:

- **Flash Indefinitely** - flash the drive LED(s) until a subsequent Stop Flashing operation is performed.
- **Stop Flashing** - stop the drive LED(s) from flashing.
- **Flash for time** - flash the drive for the time specified in the edit box (click the up/down arrows or type a new value to change the time).

### 3.4 License Manager

The License Manager allows users to unlock the certain application features on a per-enclosure basis:

**To do this, you will need to obtain an authorized license key from your storage vendor.**

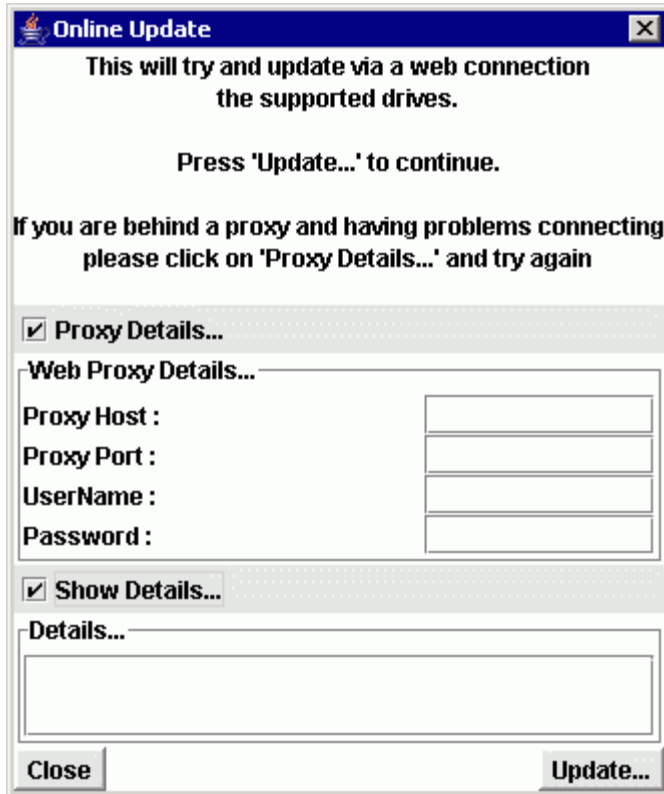


- 1) Choose the relevant enclosure from the drop-down list.

- 2) Select the required options from the available checkboxes.
- 3) Enter the license key.
- 4) Click **Apply Key**.

### 3.5 Online Update

This function is available from the *Upgrade Drive Firmware* (on page 22) window and updates over the internet.



If your system accesses the internet through a proxy server, click the **Proxy Details** button and enter the required information:

- **Proxy Host** - The IP address of the proxy server in dotted decimal format (for example, 10.0.4.123).
- **Proxy Port** - The port number used to access the internet through the proxy (for example, "80" is quite common).
- **UserName** - The name of an authorized user of the proxy service.
- **Password** - The password for the user specified above.

The **Show Details** button shows the progress of the update process.

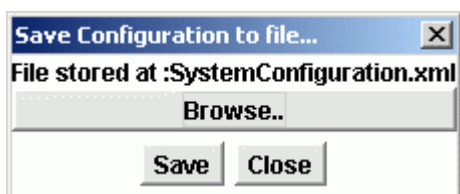
Click **Update** to download and apply the firmware, or **Close** to abort without making changes.

### 3.6 Rescan Enclosures

Performs a rescan of all connected enclosures that have been detected by the host operating system. Click **Rescan** to continue with the operation, or **Cancel** to abort.

### 3.7 Save Configuration

A configuration file can be saved for technical support purposes.



Click the **Browse** button to bring up a file selector and choose the location of the file. Then click **Save** to store the data in a file called "SystemConfiguration.xml".

### 3.8 Set Alarm State

Before clicking this option an enclosure or front (ops) panel must be selected in the **Graphical View** (on page 9).



The exact alarm behaviour is dependent on the controller - consult your hardware documentation for details. Depending on the implementation, some of the alarm states may be treated as identical.

The enclosure alarm can be set to one of the following states:

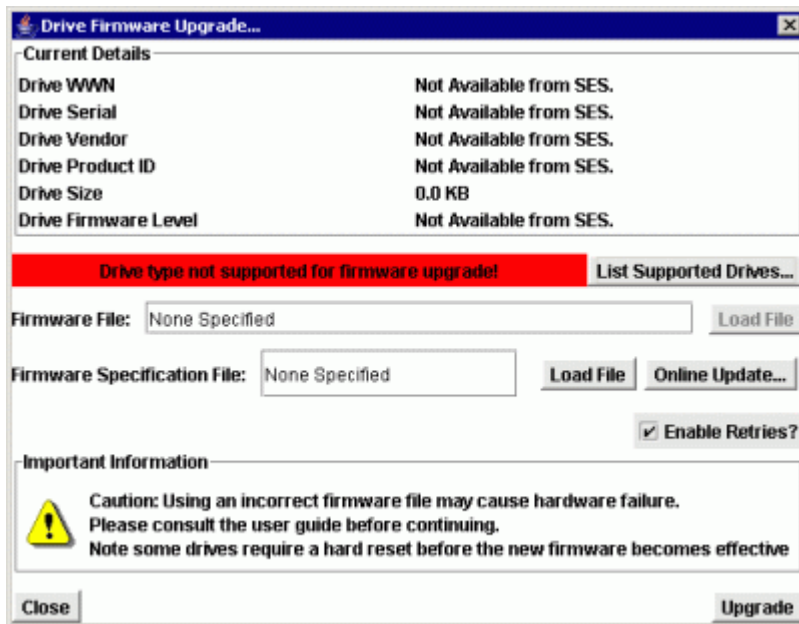
- **Mute** - The alarm is silenced.

- **Remind** - The alarm sounds at regular, infrequent intervals.
- **Info** - The alarm sounds at regular, frequent intervals.
- **Non Critical** - The alarm sounds at regular, frequent intervals.
- **Critical** - The alarm sounds at regular, frequent intervals.
- **Unrecoverable** - The alarm is continuous (no periods of silence).

### 3.9 Upgrade Drive Firmware

**Warning:** Updating a drive with incorrect firmware can cause it to become unusable

This function allows drive firmware to be updated from a file or over the internet.



The Current Details pane shows information about the drive (if available).

The **List Supported Drives** button displays a window containing all of the supported drive model numbers. If the drive is not supported a red warning banner will be displayed.

One of three methods can be used to update drive firmware:

- 1) A firmware binary file can be specified in the Firmware File field and updated using the appropriate **Load File** button.
- 2) A specification file (with a .jar extension) can be entered in the Firmware Specification File field and flashed using the appropriate **Load File** button.
- 3) The update can be performed over the internet using the **Online Update** button.

If the Enable Retries checkbox is checked, firmware flashing will be re-attempted if a failure has been detected. Up to 10 attempts will be made before the system aborts the process.

Click **Upgrade** to update the drive firmware, or **Cancel** to exit without making changes.

### **3.10 View VPD Data**

Shows the drive's Vital Product Data in a hexadecimal byte view.

## 4. Hardware Specific Information

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This section provides information that relates only to the Intel Storage Server SSR212MC2 product.

### 4.1 Notifications

There are four types of notification. In ascending order of severity, they are:

- 1) Information - Not necessarily an error, usually just pertinent information.
- 2) Warning - Usually a component is approaching a failure threshold.
- 3) Critical - Some components in the enclosure may have failed or are very close to failure, however the overall system is still functioning.
- 4) Failure - Enough components have failed that the operation of the box is no longer guaranteed (although it may still work). The enclosure needs immediate attention.

Notifications will be caused in the following instances:

#### Information:

- The Front Panel temperature sensor cannot be read.

#### Warning:

- The fan tray temperature is not critical, but is less than 5°C or greater than 37°C.
- Any drives have failed.

#### Critical:

- The fan tray temperature sensor cannot be read.
- The fan tray temperature is less than 1°C or greater than 40°C.
- A fault in the PSU (power supply unit) is detected.
- The PSU cooling system has failed.

#### Failure:

- A fault in the SAS expander detected.
- The SAS expander is not present.

The buzzer and fault LED behave in the following way:

With Mute OFF:

Notification	Buzzer	Fault LED
None	Silent	Off
Information	0.5 sec beep every 8 secs	Off
Warning	1 sec beep every 4 secs	0.5 sec flash every 4 secs
Critical	1.5 sec beep every 2 secs	0.5 sec flash every 1 sec
Failure	Continuous	Constant

With Mute ON and Remind OFF, the buzzer will never sound, no matter what notification occurs.

With Mute and Remind ON, the buzzer will sound for 0.5 seconds every 32 seconds if any notification occurs.

The following table shows the meaning of various LED and buzzer combinations, and what action is required as a result:

Object	State	Related	Meaning	Required Action
Chassis Fault Light	Off	-	No warnings or more serious errors.	None - All OK.
	Slow blink (0.5s on, 3.5s off).	Slow beep (half second beep every 8s). No Fan/drive lights lit constant.  No beep if muted.	Warning state – usually approaching temperature threshold.	Check ambient temperature and increase if too cold or decrease if too hot. If this does not work check for fan failure that has a broken light too.
		Slow beep. Fan light constant. No beep if muted.	Fan broken or out of tolerance.	Replace lit fan.
		Slow beep. Drive light constant. No beep if muted.	Drive fault	Replace drive.
	Fast Blink (alternating every 0.5s).	Faster beep (1.5s beep, 0.5 s silence). No fan lights constant. No beep if muted.	Critical state – usually temperature near edge of operating realm.	Check ambient temperature and increase if too cold or decrease if too hot immediately. If this does not work check for fan failure that has a broken light too.
		Faster beep, more than one fan light on or a single PSU fan light on. No beep if muted.	Fans broken or out of tolerance.	Replace Fans immediately.
	Constant on	Constant, but with no fan lights on constantly.	Failure State – temperature in range where damage could occur.	Check ambient temperature and increase if too cold or decrease if too hot immediately. If this does not work check for fan failure that has a broken light too.
		Constant, with multiple fan lights on constantly.	Fans broken or out of tolerance.	Replace Fans immediately. Decrease ambient temperature.
Object	State	Related	Meaning	Required Action

Object	State	Related	Meaning	Required Action
Fan Light	Constant On	Varying levels of beep and chassis fault light setting. No beep if muted.	Fan broken or out of tolerance.	Replace Fans immediately.
	Flashing		Fan Ident On.	-
Drive Light (amber)	Constant On	Varying levels of beep and chassis fault – usually slow beep and slow flash. No beep if muted.	Drive faulty.	Replace drive.
	Flashing		Drive Ident On.	-
Chassis Ident LED	Flashing		Chassis Ident On	-
Buzzer	Off	Chassis fault LED off.	No issues.	No action required.
	Off	Chassis fault LED flashing or constant.	Muted.	See Chassis LED settings above for interpretation of lights and remedy.
	Intermittent short beep (0.5s beep every 32s).	Various chassis fault light flash states.	Fault has occurred and system is muted but in remind mode.	Check fault status using chassis fault LED settings and remedy.
	Slow beep (0.5s beep every 8s).	Chassis fault LED slow blink (0.5s on, 3.5s off).	Warning Mode.	See chassis fault LED settings above.
	Faster beep (1.5s beep, 0.5s silence).	Chassis fault LED fast Blink (alternating every 0.5s).	Critical Mode.	See chassis fault LED settings above.
	Constant beep.	Chassis fault LED constant on.	Failure Mode.	See chassis fault LED settings above.



## 5. Events List

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This section shows the events that can occur in the *Events Pane* (on page 16).

### 5.1 Events List - Alphabetical

The following is an alphabetical list of events that can be shown in the *Events Pane* (on page 16).

Event Name	Severity
ALARM_STATUS_CHANGE	Warning (2)
ALARM_STATUS_CHANGE_CRITICAL	Critical (1)
ALARM_STATUS_OFF	Info (3)
CONTROLLER_ADDED	Info (3)
CONTROLLER_REMOVED	Critical (1)
DRIVE_ADDED	Info (3)
DRIVE_REMOVED	Critical (1)
FAN_ADDED	Info (3)
FAN_REMOVED	Warning (2)
FAN_SPEED_CHANGE	Info (3)
FAN_STATUS_CHANGE	Warning (2)
PSU_ADDED	Info (3)
PSU_REMOVED	Warning (2)
PSU_STATUS_CHANGE	Warning (2)
SES_INTERFACE_ADDED	Info (3)
SES_INTERFACE_OFFLINE	Critical (1)
SES_INTERFACE_REMOVED	Critical (1)
TEMP_READ_CHANGE	Info (3)
TEMP_CHANGE_HIGH	Critical (1)
TEMP_CHANGE_LOW	Critical (1)

## 5.2 Events List - By Severity

The following is a list of events, in order of severity, that can be shown in the **Events Pane** (on page 16).

Event Name	Severity
ALARM_STATUS_CHANGE_CRITICAL	Critical (1)
CONTROLLER_REMOVED	Critical (1)
DRIVE_REMOVED	Critical (1)
SES_INTERFACE_OFFLINE	Critical (1)
SES_INTERFACE_REMOVED	Critical (1)
TEMP_CHANGE_HIGH	Critical (1)
TEMP_CHANGE_LOW	Critical (1)
ALARM_STATUS_CHANGE	Warning (2)
FAN_REMOVED	Warning (2)
FAN_STATUS_CHANGE	Warning (2)
PSU_REMOVED	Warning (2)
PSU_STATUS_CHANGE	Warning (2)
ALARM_STATUS_OFF	Info (3)
CONTROLLER_ADDED	Info (3)
DRIVE_ADDED	Info (3)
FAN_ADDED	Info (3)
FAN_SPEED_CHANGE	Info (3)
PSU_ADDED	Info (3)
SES_INTERFACE_ADDED	Info (3)
TEMP_READ_CHANGE	Info (3)