



StorView 画面説明

エムアイシー・アソシエーツ株式会社

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1 Tool Bar

These icon buttons appear at the top of the work area and define the tool bar section of the work area. They provide a one click access to primary functions.

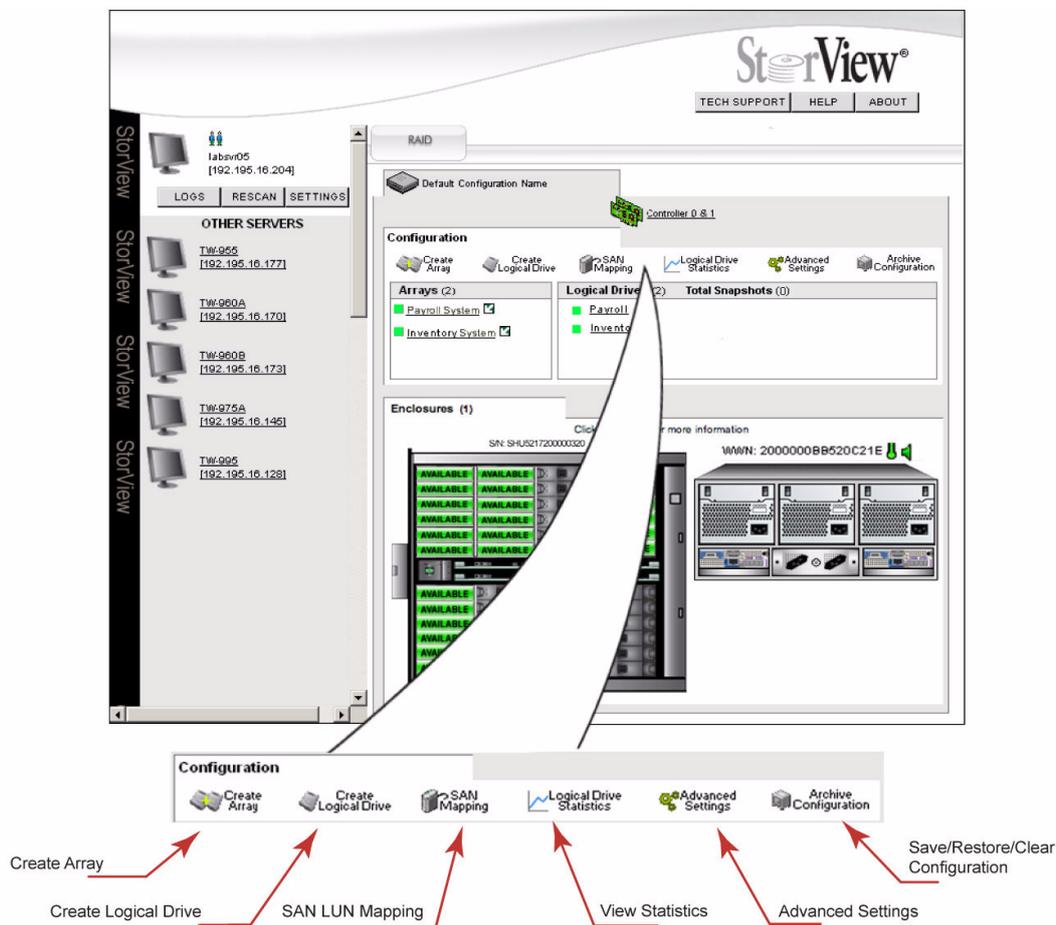


Figure 2-1 Tool Bar – RS-4835-F4-5404E Model Shown

Note Throughout the interface, holding the mouse pointer over an icon will display a pop-up window with information specific to the object.

Tool Bar Button	Description
Create Array	This button will open the Create Array window allowing the user to create new disk arrays.
Create Logical Drive	This button will open the Create Logical Drive window allowing the user to configure new logical drives.
SAN Mapping	This button will open the SAN LUN Mapping panel which allows the user to further customize logical drive availability.
Logical Drive Statistics	This button opens the Statistics window.

Tool Bar Button	Description
Advanced Settings	This button opens a window from which you may change controller parameters.
Archive Configuration	This button will open a window from which you may choose to save, restore, or clear the configuration. Note when clearing a configuration this will delete all arrays and logical drives, as well as the data on those logical drives.

2 Enclosure Section

This section displays the front and rear views of the RAID enclosures and expansion enclosures.

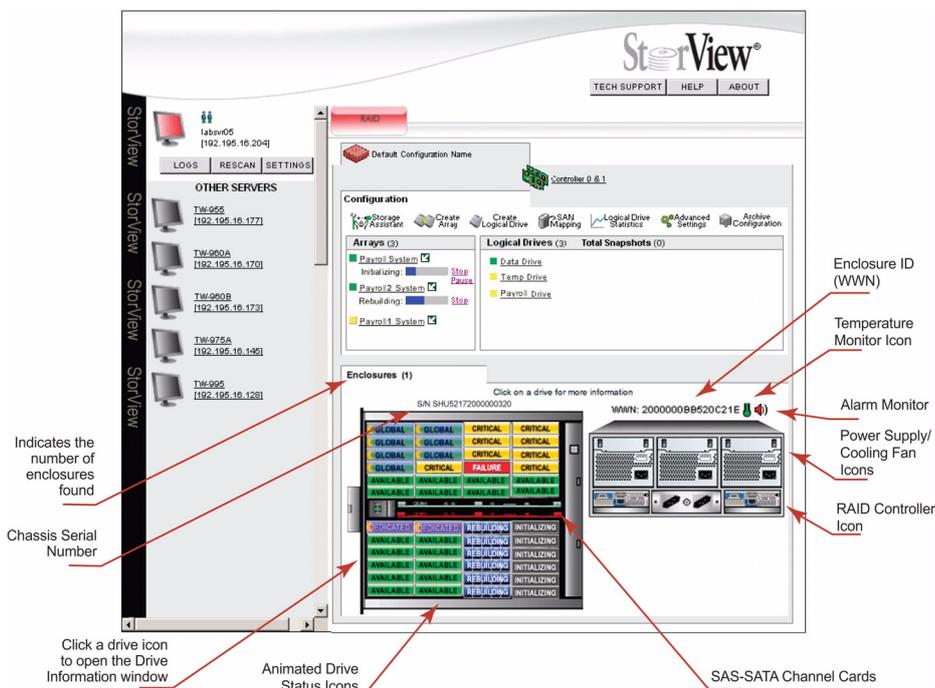


Figure 2-2 Enclosure Section – RS-4835-F4-5404E Model Shown

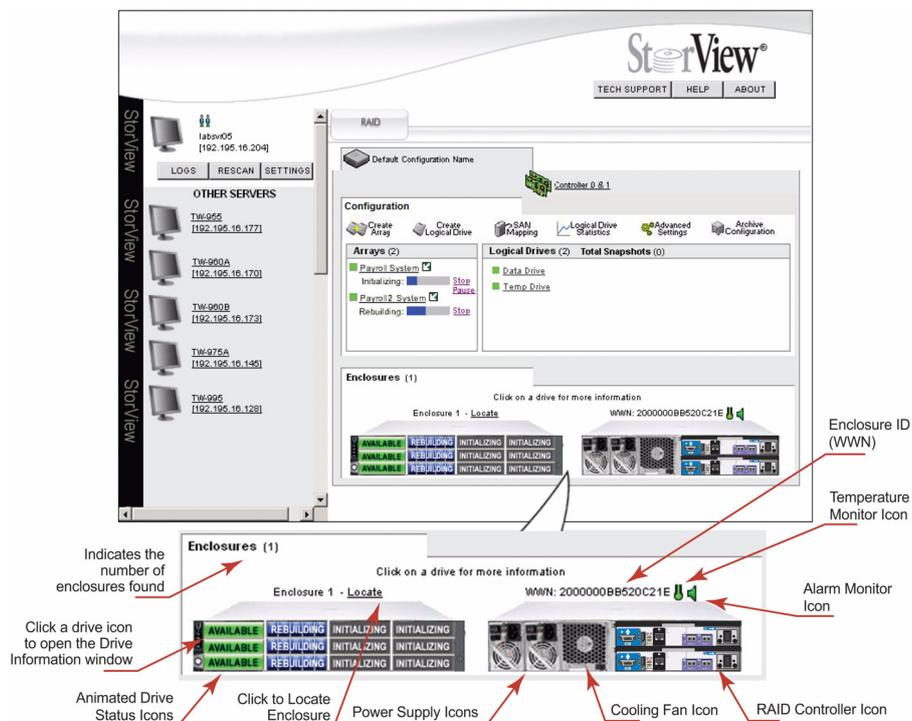


Figure 2-3 Enclosure Section – RS-1220-F4-5412E Model Shown

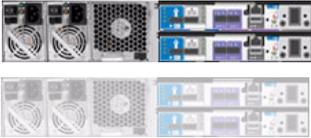
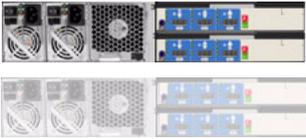
Enclosure Section	Description and Condition
<p>Drive Status Icon</p> <p> Array Member</p> <p> Array Member - Spun Down</p> <p> Available</p> <p> Available - Spun Down</p> <p> Dedicated Spare</p> <p> Dedicated Spare - Spun Down</p> <p> Empty</p> <p> Failed</p> <p> Global Hot Spare</p> <p> Global Hot Spare - Spun Down</p> <p> Missing</p> <p> Initializing</p> <p> Rebuilding</p> <p> Locate</p> <p> Critical</p>	<p>These icons appear on the front of the enclosure on the Main screen and provide an instant view of the status of disk drives as well as drive location and clicking the icon will open the Drive Information window.</p> <ul style="list-style-type: none"> • Array Member - Disk drive is a member of an array. • Array Member (Spun-Down) - Disk drive is a member of an array but is spun down under APM. • Available - Disk drive is online and available for use in an array or as a hot spare. • Available (Spun-Down) - Disk drive is online and available for use in an array or as a hot spare but is spun down under APM. • Dedicated Spare - Disk drive is marked as a dedicated spare to an array. • Dedicated Spare (Spun-Down) - Disk drive is marked as a dedicated “cold” spare to an array but is spun down under APM. • Empty - Disk drive slot is empty. • Failed - Disk drive has failed. • Global Hot Spare - Disk drive is a global spare. • Global Hot Spare (Spun-Down) - Disk drive is a global “cold” spare but is spun down under APM. • Missing - Indicates that StorView is unable to determine the status of the drive. • Initializing - Disk drive is a member of an array being initialized. • Rebuilding - Drive members of an array are in rebuild mode. • Locate - Clicking the “arrow” icon next to the “specific array” in the Arrays section will display an “arrow” icon on all the drive members of that array in the front enclosure view. • Critical - Drive(s) are members of a fault tolerant array and are in a non-fault tolerant state.* <p>*NOTE: With RAID 6 disk arrays, the loss of a single drive does not place the array in a non-fault tolerant state. The drive status icon is the same for single or dual drive failures. To verify whether the array is in a Non Fault Tolerant vs. Fault Tolerant Warning state, identify the number of drive failures for the array. Two drive failures will put the RAID 6 array in a non fault tolerant state. Passing the mouse pointer over the status icon (yellow) will display the array’s status, also in the Array Information screen the status is displayed.</p>

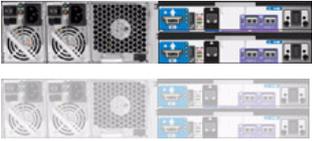
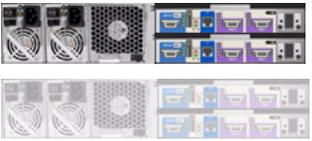
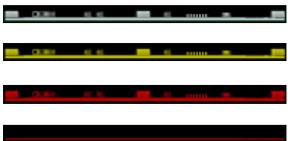
Enclosure Section	Description and Condition
<p>Drive Status Icon (<i>continued</i>)</p> <p> Updating Firmware</p> <p> Failed Array Member</p> <p> Failed Array Member- Spun Down</p> <p> Expanding</p> <p> Verifying</p> <p> Unsupported</p> <p> Unsupported</p>	<ul style="list-style-type: none"> Updating Firmware - This icon will appear when the subject drive's firmware is being updated. Failed Array Member - This icon will appear on all disk drives that are members of an array that has failed. For example if you remove a drive from a RAID 0 array or a drive in that array fails, the remaining drive members will have this icon displayed indicating that array has failed. If you accidentally remove the wrong drive in a critical redundant array (RAID 5) instead of the failed drive, that array will have failed and its member drives will have this icon displayed. Re-inserting the drive that was accidentally removed will put the drive members back to a critical state in which the array is being rebuilt. Failed Array Member (Spun Down) - This disk drive is a member of an array. It has failed and was spun down under APM. Expanding - This icon is displayed on the drive members whose array is expanding. Verifying - This icon is displayed on the drive members whose array's parity data is being verified. Unsupported - This icon is displayed when a drive does not match the other drives for the array. There are two images, one is for when the drive is a member of an array and the last one is when it is not a member of an array.
<p>Enclosure Component Icons</p>	<p>The following icons appear on the Main screen in the Enclosure section. They provide an instant view of the operating status of the enclosure components, and clicking the icons will open the Controller Information window.</p>
<p>F5404E RAID Controller</p> <p> Normal</p> <p> Error</p> <p> Empty</p>	<ul style="list-style-type: none"> Normal - RAID Controller is operating normally. Error - A RAID Controller has failed in an Active-Active topology or the backup battery has failed. Empty - This icon represents the empty controller slot for future expansion. A blank plate is shown.

Enclosure Section	Description and Condition
<p>EBOD I/O Module (RS-4835-E3-XP)</p>  Normal  Error  Missing  Empty	<ul style="list-style-type: none"> • Normal - EBOD I/O Module is operating normally. • Error - The EBOD I/O Module has failed. • Missing - The EBOD I/O module is missing from the slot. • Empty - The EBOD I/O module is removed and a blank plate is installed.
<p>F6412E RAID Controller</p>  Normal  Error  Empty	<ul style="list-style-type: none"> • Normal - RAID Controller is operating normally. • Error - A RAID Controller has failed in an Active-Active topology or the backup battery has failed. • Empty - This icon represents the empty controller slot for future expansion. A blank plate is shown.
<p>Disk I/O Module (RS-1220-E311-XP)</p>  Normal  Error  Missing  Empty	<p>(Used with the RS-1220-F4-6412E Only)</p> <ul style="list-style-type: none"> • Normal - Disk I/O Module is operating normally. • Error - Disk I/O Module has failed. • Missing -Disk I/O is missing from the slot. • Empty - Disk I/O is removed and a blank plate is installed.
<p>F5412E RAID Controller</p>  Normal  Error  Empty	<ul style="list-style-type: none"> • Normal - RAID Controller is operating normally. • Error - A RAID Controller has failed in an Active-Active topology or the backup battery has failed. • Empty - This icon represents the empty controller slot for future expansion. A blank plate is shown.
<p>E5412E RAID Controller</p>  Normal  Error  Empty	<ul style="list-style-type: none"> • Normal - RAID Controller is operating normally. • Error - A RAID Controller has failed in an Active-Active topology or the backup battery has failed. • Empty - This icon represents the empty controller slot for future expansion. A blank plate is shown.

Enclosure Section	Description and Condition
<p>Disk I/O Module (RS-1220-E3-XPB)</p>  Normal  Error  Missing  Empty	<p>(Used with the RS-1220-F4-5412E and RS-1220-E3-5412E Only)</p> <ul style="list-style-type: none"> • Normal - Disk I/O Module is operating normally. • Error - Disk I/O Module has failed. • Missing -Disk I/O is missing from the slot. • Empty - Disk I/O is removed and a blank plate is installed.
<p>Power Supply/Cooling Module Icon (RS-4835 Enclosure)</p>  Normal  Warning  Failure  Unknown  Missing	<ul style="list-style-type: none"> • Normal - The power supply/cooling fan module is operating normally. • Warning - Indicates either the fan or the power supply module is critical, or both are critical. • Failure - Indicates either the fan or the power supply module has failed, or both have failed. • Unknown - The power supply/cooling fan module status cannot be determined. • Missing - The power supply/cooling fan module cannot be located.
<p>Fan Icon (RS-1220 Enclosure)</p>  Normal  Fan 1 Failed  Fan 2 Failed  Failure	<ul style="list-style-type: none"> • Normal - Both fans are operating normally. • Fan 1 Failed - One fan in the fan module has failed. The fan which failed will be indicated on the icon. • Fan 2 Failed - One fan in the fan module has failed. The fan which failed will be indicated on the icon. • Failure - Both fans in the fan module have failed or the cooling fan module has been removed.

Enclosure Section	Description and Condition
<p>Power Supply Icon (RS-1220 Enclosure)</p> <p> Normal</p> <p> Failure</p> <p> Missing</p> <p> Unknown</p>	<ul style="list-style-type: none"> • Normal gray icon indicates that the power supply is operating normally. • A red flashing icon with “Failure” displayed indicates that the subject power supply has failed. • A solid red icon indicates that the power supply is missing. • Unknown - This icon indicates the enclosure power supply information from the SES processor or SAF-TE processes is missing or invalid.
<p>Alarm Monitor Icon</p> <p> Off</p> <p> On</p> <p> Mute</p> <p> Disabled</p>	<ul style="list-style-type: none"> • This icon indicates the alarm is silent. • This icon indicates the alarm is On (Continuous), On (Intermittent), or On (Remind). • This icon indicates the alarm is muted. • This icon indicates the alarm is disabled. <p>Note: Clicking the icon will open a window to manage the alarm.</p>
<p>Enclosure Temperature Icon</p> <p> Normal</p> <p> Warning</p> <p> Failed</p> <p> Missing</p>	<p>Enclosure temperature icon is displayed just above the rear enclosure icon and indicates the status of the enclosure temperature.</p> <ul style="list-style-type: none"> • Normal - This icon indicates that the temperature is normal. It appears green. • Warning - This yellow icon indicates that the enclosure temperature is approaching the established threshold. • Failed - This red icon indicates that the enclosure temperature has reached or exceeded the enclosure temperature threshold. (If the fans are operating normally and the air flow temperature seems normal it may be an indication that the temperature sensor is faulty.) • Missing - This icon indicates that the information from the SES regarding the sensors is invalid or missing.

Enclosure Section	Description and Condition
<p>Rear Enclosure Icon RS-4835-F4-5404E (F5404E)</p> 	<p>Rear view enclosure icons are displayed at the bottom of the main screen and will change shades according to enclosures state, as well as the state of the individual components. The enclosures are labeled above each front view to aid with identifying them in a multiple enclosure environment.</p> <ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings.
<p>Rear Enclosure Icon RS-4835-E3-XPN</p> 	<ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings.
<p>Rear Enclosure Icon RS-1220-F4-6412E (F6412E)</p> 	<ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings window.
<p>Rear Enclosure Icon RS-1220-E311-XPN</p> 	<p>(Used with RS-1220-F4-6412E Only)</p> <ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings window.

Enclosure Section	Description and Condition
<p>Rear Enclosure Icon RS-1220-F4-5412E (F5412E)</p> 	<ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings window.
<p>Rear Enclosure Icon RS-1220-E3-5412E</p> 	<ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings window.
<p>Rear Enclosure Icon RS-1220-E3-XPN</p> 	<p>(Used with the RS-1220-F4-5412E and RS-1220-E3-5412E Only)</p> <ul style="list-style-type: none"> • Normal - All components are operating normally. • Communication Error- The SES process has lost communication with the enclosure, indicated by the icon becoming grey or dim. Or you have disabled “Enclosure Support” in the Controller Advanced Settings window.
<p>SAS-SATA Channel Card Icons (RS-4835 Enclosures)</p> 	<p>SAS-SATA Channel cards displayed on the top view of the enclosure.</p> <ul style="list-style-type: none"> • Normal - The card is operating normally. • Warning - Unknown • Fail - SAS-SATA Channel card has failed. • Missing - Indicates that the information from the SES regarding the sensors is invalid or missing.

3 Array and Logical Drive/Snapshot Section

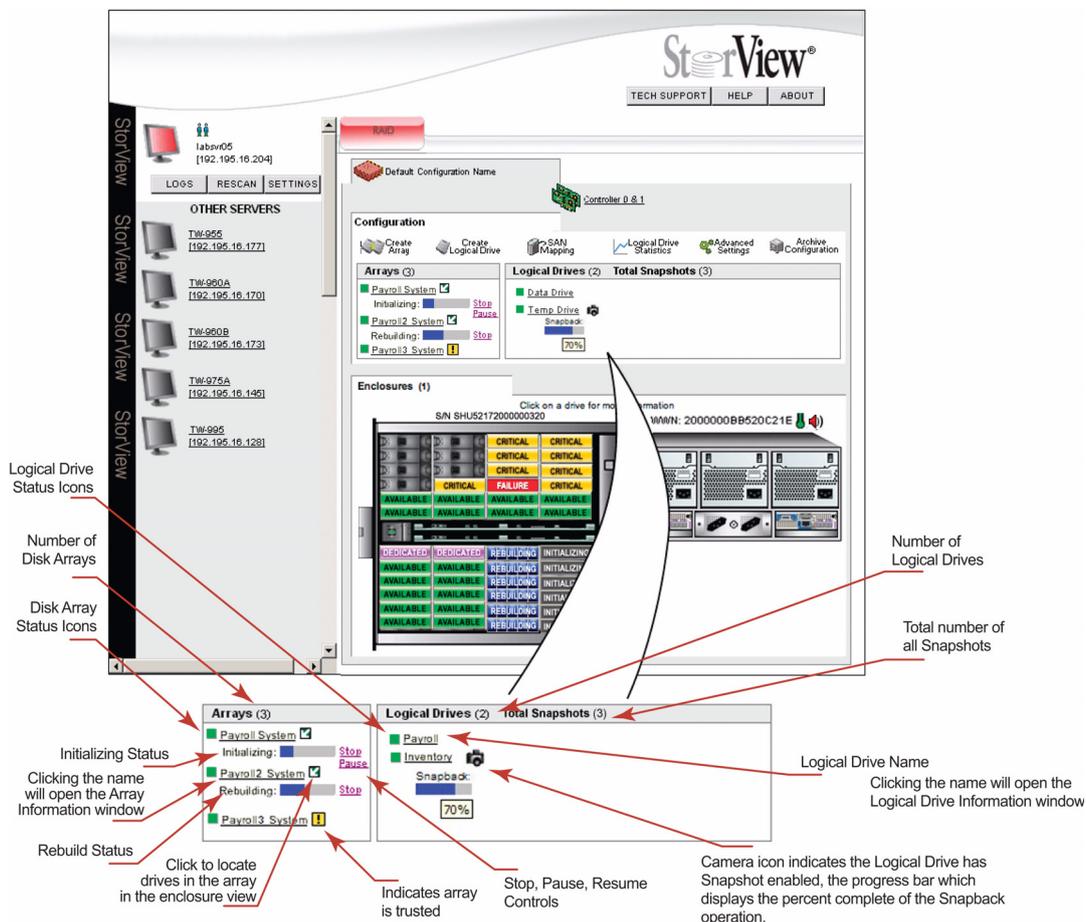


Figure 2-4 Array and Logical Drive Section – RS-4835-F4-5404E Model Shown

Array and Logical Drive Section	Description and Condition
<p>Array Status Icon</p> <ul style="list-style-type: none"> ■ Green (Normal) ■ Yellow (Warning) ■ Red (Error) 	<p>These icons are found in the Array section and depict the current state of the specific component.</p> <ul style="list-style-type: none"> • Green - Status is ok. • Yellow - Indicates a drive component in a RAID 1, 10, 5, 6 or 50 array has failed and the array is no longer fault tolerant, or the array is in a rebuild cycle. For RAID 6 arrays, it indicates 1 or 2 drives have failed. See Drive Status Icon “Critical” state. • Red - Indicates an array is invalid or offline due to an error: <ul style="list-style-type: none"> RAID 0 = One drive has failed. RAID 1/10 = Two drives have failed from the same pair. RAID 5 = Two drives have failed. RAID 6 = Three drives have failed. RAID 50 = Two drives have failed within the same sub-array.

Array and Logical Drive Section	Description and Condition
<p>Logical Drive Status Icon</p> <ul style="list-style-type: none">  Green (Normal)  Yellow (Warning)  Red (Error) 	<p>These icons are found in the Logical Drive section and depict the current state of the specific component.</p> <ul style="list-style-type: none"> • Green - Status is ok. • Yellow - Indicates the logical drive is part of an array that is degraded. For logical drives consisting of RAID 6 arrays, it indicates 1 or 2 drives have failed. See Drive Status Icon “Critical” state. • Red - Indicates the logical drive is part of an array which is invalid or offline, RAID 0 = One drive has failed. RAID 1/10 = Two drives have failed from the same pair. RAID 5 = Two drives have failed. RAID 6 = Three drives have failed. RAID 50 = Two drives have failed in the same sub-array.
<p>ODA Status Icon</p> <ul style="list-style-type: none">  Normal  Warning  Failed 	<p>This icon is found in the Logical Drive section adjacent to the Snapshot enabled logical drive and depicts it’s current state. During a Snapback operations, a status bar displaying the percent complete will appear under the Logical Drive icon.</p> <ul style="list-style-type: none"> • ODA is OK. • ODA is reaching capacity. Free up ODA space by deleting unneeded snapshots. A warning will appear when a minimum amount of space remains on the ODA. The specific amount is dependant on the size of the ODA. • The ODA has run out of space. All snapshots are invalid. In order to resume operations, delete all snapshots.
<p>Trusted Array Icon</p> <ul style="list-style-type: none">  Trusted Array 	<p>This icon is found in the Array section, adjacent to a disk array. It indicates that the array has been trusted.</p>

Note At the top of the Arrays, Logical Drives and Snapshot section are values displayed in parenthesis next to each title. The value indicates the total number of Arrays for the storage solution, Logical Drives for the storage solution and total number of Snapshots taken for the storage solution.

4 Server Sidebar and Top Section

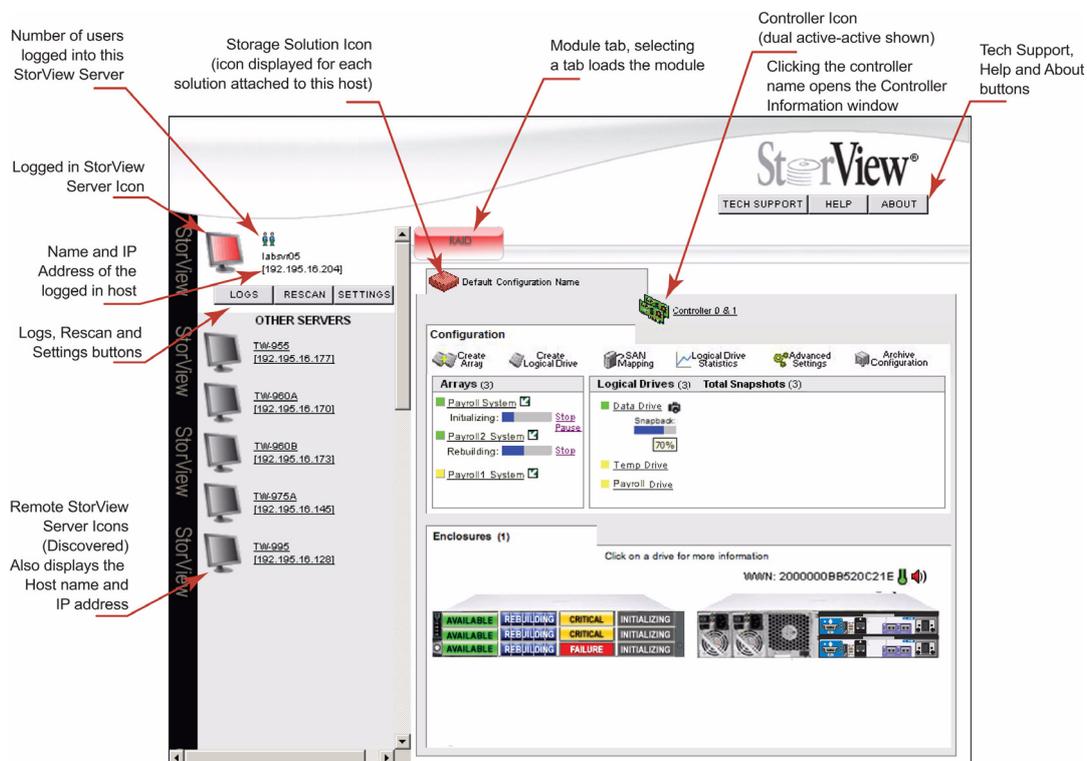
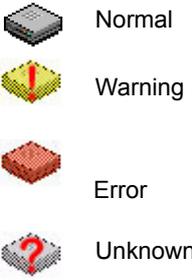
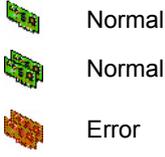


Figure 2-5 Server Sidebar Section – RS-1220-F4-6412E Model Shown

Server Section	Description and Condition
<p>StorView Server Icon</p>  Normal  Warning  Error	<p>These icons will appear on the Server Sidebar section on the Main screen. They depict the current server and discovered servers. The icon will indicated the status of the server components by changing its color and state.</p> <ul style="list-style-type: none"> • Normal Gray - Status is ok. • Flashing Yellow - Indicates a server warning that a device connected is in degraded mode. • Flashing Red - Indicates a server error or device malfunction.
<p>Remote StorView Servers Icon (Global License)</p>  Normal  Warning  Error	<ul style="list-style-type: none"> • Normal Gray - Status is ok. • Flashing Yellow - Indicates a server warning that a device connected is in degraded mode. • Flashing Red - Indicates a server error where a device has malfunctioned.

Server Section	Description and Condition
<p>Remote StorView Servers Icon</p> 	<ul style="list-style-type: none"> Flashing White - The server has not responded in at least 40 seconds and is considered missing. If you would like to remove the missing server from the list, click the Rescan button. This will refresh the screen with a current list of discovered servers.
<p>User Icon (located adjacent to Server icon)</p> 	<p>Represents each user logged into the StorView server you are monitoring. Placing the mouse pointer over the icon will display the IP address, host name and the user name.</p>
<p>Storage Solution Icon (displayed for each storage solution)</p> 	<p>You will also see the warning “!”, error, and unknown icons for unfocused storage solutions that are being monitored as well.</p> <ul style="list-style-type: none"> Normal Gray - Status is ok. Flash Yellow with red “!” - Indicates a component in the storage solution is in degraded mode. Flashing Red - Indicates a component in the storage solution has malfunctioned. Flashing Red with “?” - Indicates that the storage solution was there at startup but now cannot be located.
<p>Storage Solution: Unmonitored</p> 	<p>This icon indicates that another StorView server is monitoring this storage solution, or if you just performed a rescan then the StorView servers are still determining which StorView server will take control of the monitoring of the storage solution.</p>
<p>Controller Icon</p> 	<p>This icon represents the RAID Controller installed in the enclosure. For duplex systems (Active-Active), a dual controller image is displayed.</p> <ul style="list-style-type: none"> A green icon represents a normal operating system. A flashing red icon appears if the controller’s backup battery unit has failed, or in Active-Active topologies when the partner controller has failed.
<p>Module Tabs</p> 	<p>The tab appears at the top of the Main window and when selected will focus the monitoring and management functions to specific systems types. This tab will flash yellow if a warning condition occurs and red if an error condition occurs.</p>