

# **StorView Storage Management Software Installation Guide**

Part No. 90377-01A

Issue 1.0

March 30, 2007

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# Preface

## What is in this guide

This user guide gives you the step-by-step instructions on installing StorView host-based software and the initial setup of the StorView Embedded module.

## Who should use this guide

This user guide assumes that you have a working knowledge of storage appliance products. If you do not have these skills, or are not confident with the instructions in this guide, do not proceed with the installation.

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Portions of this software are based upon public domain software originally written at the National Center for Supercomputing Applications, University of Illinois, Urbana-Champaign.

## Related Documentation

- StorView Storage Management Software RAID Module User Guide (P/N 90254-01A)
- RS-4835-F4-5404E Quick Start Guide (P/N 80449-01A)
- RS-4835-F4-5404E & RS-4835-E3-XPEN Installation and User Guide (P/N 80448-01A)
- RS-1220-F4-5412E Quick Start Guide (P/N 90506-01A)
- RS-1220-F4-5412E & RS-1220-E3-XPEN Installation and User Guide (P/N 90505-01A)
- RS-1220-F4-5402E Quick Start Guide (P/N 78603-03A)
- RS-1220-F4-5402E & RS-1220-E3-XPEN Installation and User Guide (P/N 72814-04A)
- RS-1220-E3-5412E Quick Start Guide (P/N 90509-01A)
- RS-1220-E3-5412E & RS-1220-E3-XPEN Installation and User Guide (P/N 90508-01A)
- RS-1220-E3-5402E Quick Start Guide (P/N 82903-02A)
- RS-1220-E3-5402E & RS-1220-E3-XPEN Installation and User Guide (P/N 82904-02A)
- F5404E VT-100 RAID Configuration Utility User Guide (P/N 90255-01A)
- F5412E VT-100 RAID Configuration Utility User Guide (P/N 90507-01A)
- F5402E VT-100 RAID Configuration Utility User Guide (P/N 80226-03A)
- E5412E VT-100 RAID Configuration Utility User Guide (P/N 90510-01A)
- E5402E VT-100 RAID Configuration Utility User Guide (P/N 83249-02A)

## Revision History

Version	Date	Description of Change
1.0	March, 2007	Initial Release

# Chapter 1

# Introduction

## 1.1 Welcome

StorView® Storage Management software is a full-featured HTML-based software suite designed to configure, manage, and monitor the RS-4835-F4-5404E series, RS-1220-F4-5402E series, RS-1220-F4-5412E series, RS-1220-E3-5402E series, and RS-1220-E3-5412E series RAID Storage systems.

StorView provides the centralized local and remote management tool to control primary storage assets vital to ensuring maximum data reliability, network up-time, and system serviceability. It also allows you to manage and monitor the storage solutions from a local host and from a remote host located on the intranet or internet.

StorView is built on a modular design and currently supports the RAID Module. Other modules will become available in the future. The RAID Module provides the support for the F5404E, F5402E, F5412E, E5402E, and E5412E RAID Controllers with an extensive set of configuration and management options. StorView's RAID Module is available in two versions: host-based and embedded. The host-based version is installed on a host computer system, while the embedded version is rooted on the F5404E, F5402E, F5412E, E5402E, and E5412E RAID Controllers.

## 1.2 Numbering Convention

The capacity of most disk drives is reported from the controller using base-10 decimal system expressed in GB (1 GB = 1,000,000,000 bytes). Many operating systems use base-2 binary system to define the same space in GB (1 GB = 1,073,741,824 bytes). This can cause a visual discrepancy of approximately 7% between what the controller reports and what the operating system reports.

For example, an array of six drives may be reported as 733 GB by StorView, and Microsoft Windows reports it as 682.89 GB.

The volume size is the same amount whether it is reported in base-10 or base-2, or MB vs. GB.

**Note** The controller reserves small amount of capacity for configuration data.

## 1.3 Troubleshooting Assistance

To assist you when troubleshooting problems with your system, the Events chapter located in the RAID Module user guide and the on-line help provides a list of all the events that can occur, along with a possible cause and action to take. When a warning or error event occurs, you can review the event log, locate the suspect event, and refer to the Events chapter or help section to determine the possible cause or causes and the suggested action to take.

# Chapter 2

# Installation

## 2.1 Learning the Interface

If you will be using the host-based version of StorView, you should be ready to begin the software installation once the hardware installation is complete.

Refer to the appropriate section for your installation platform: [see 2.2 "Setup for Microsoft Windows" beginning on page 3](#) or [see 2.3 "Setup for Linux Platforms" beginning on page 10](#).

**Note** If you are using the embedded version of StorView, [see 2.4 "Embedded StorView Initial Setup" beginning on page 12](#).

## 2.2 Setup for Microsoft Windows

### 2.2.1 System Requirements

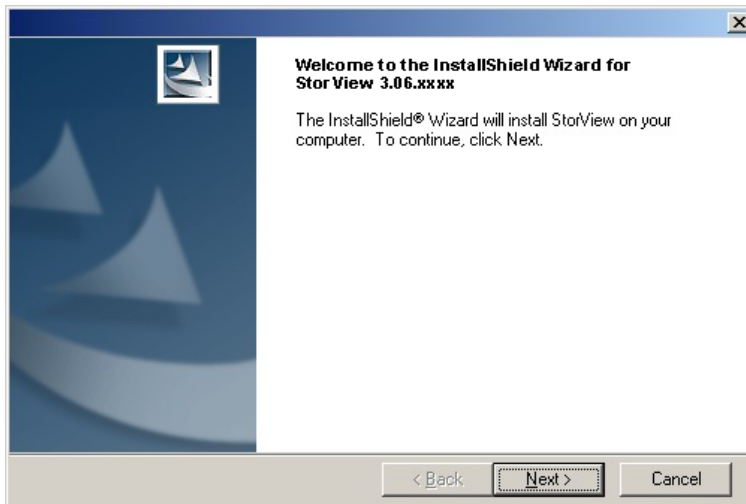
The following are the minimum system requirements to install and use StorView on Microsoft Windows platforms:

- A personal computer or server with an Intel Pentium III type processor or compatible.
- 128 MB RAM.
- CD-ROM drive and 100 MB hard disk space.
- 256 color video adapter (Display settings should be set to 1024x768).
- Operating system - Microsoft® Windows® Server 2003.
- Web browser that is compliant with HTTP 1.1 and JavaScript 1.3 or later.
- Network adapter or a Microsoft Loop Back Adapter.
- RS-4835-F4-5404E, RS-1220-F4-5402E, RS-1220-F4-5412E, RS-1220-E3-5402E, and/or RS-1220-E3-5412E Storage systems.

## 2.2.2 Installing StorView

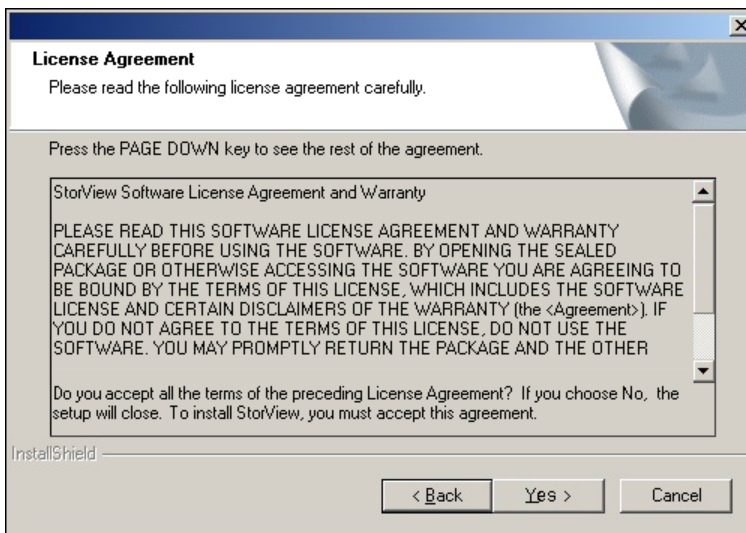
**Note** If you have a previous version of StorView installed you will need to perform an upgrade, see [2.2.3 "Upgrading StorView on Microsoft Windows" beginning on page 9](#).

- 1 Insert the Software and Manuals Disc into your CD drive.
- 2 Click the StorView Installation link below the Software group. The installer Welcome screen will appear.



**Figure 2–1** Welcome Screen

- 3 Read the license agreement and click the Yes button to accept the terms of the license and continue. Click *Cancel* if you do not wish to license the software at which time it will cancel the installation.

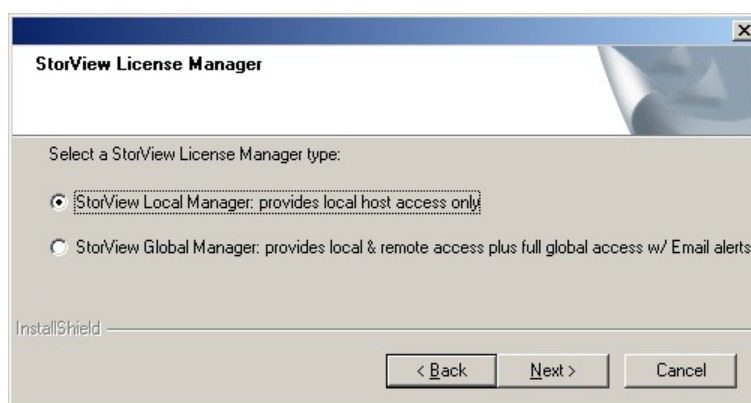


**Figure 2–2** License Agreement Screen

- 4 Choose the license manager type to install by selecting the appropriate radio button, and click the *Next* button. If you choose Local Manager, skip to step 5.

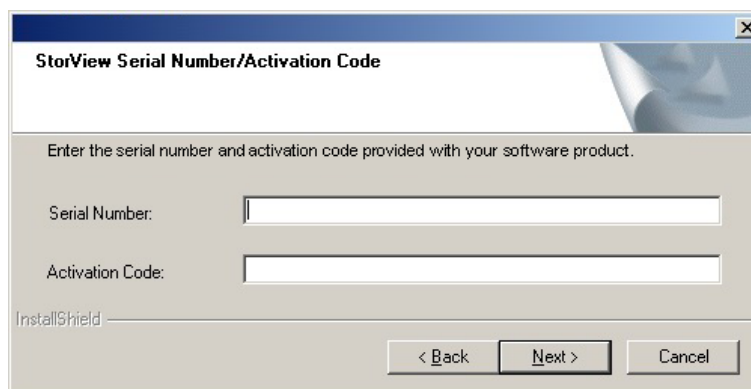
The Local license is provided without the requirement of a serial number and activation code. It allows you to configure, manage, and monitor only a storage solution that is attached to your local host system.

The Global license requires a serial number and activation code. The Global license allows you to perform remote login, management and monitoring, and monitoring failover capabilities plus E-mail alert notifications, SYSLOG, and SNMP features are enabled. The serial number and activation code are located on a label on the disc package.



**Figure 2-3** Select License Type Screen

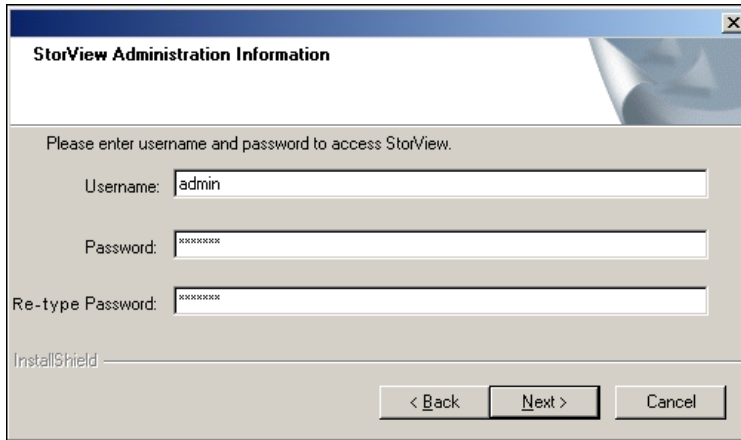
- 5 If you selected the Global Manager, on the next screen enter your serial number and activation code, then click the *Next* button.



**Figure 2-4** Serial Number and Activation Code Screen

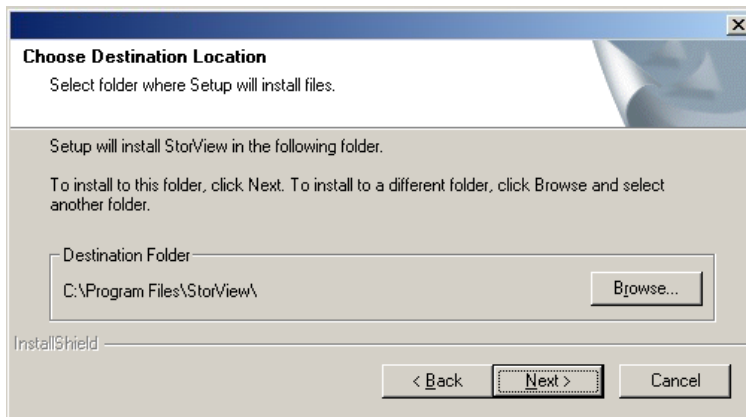
- 6 Enter the user name and password, then click the *Next* button.

This is the user name and password that will be established for the StorView login. You may use up to 258 characters for the user name or password, and it is case sensitive. Be sure to write down the user name and password, as it will be required to log into StorView. In this example, we used “admin.”



**Figure 2-5** User Name and Password Screen

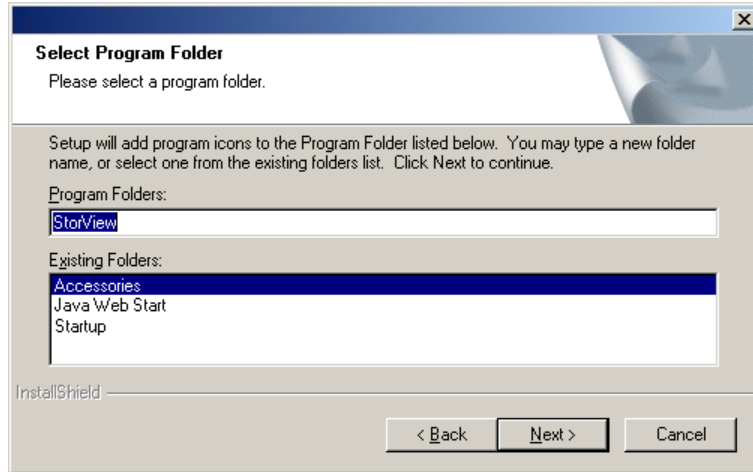
- 7 Accept the default installation directory and click the *Next* button, or to install in a different directory click the *Browse* button and choose the directory for the software installation, then click the *Next* button. The default directory is \Program Files\StorView.



**Figure 2-6** Installation Destination Directory Screen

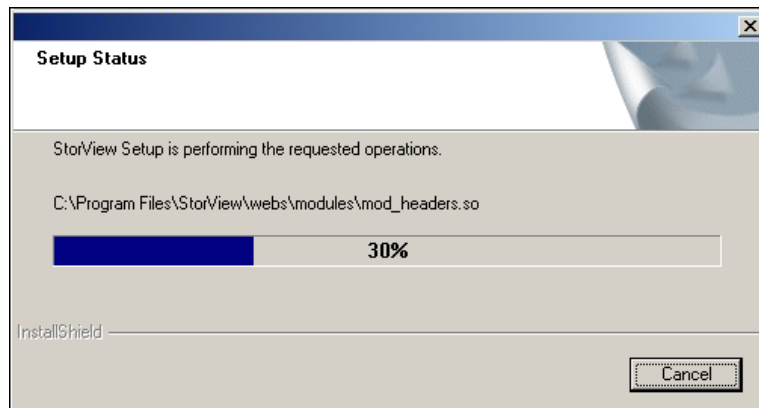
- 8 Choose the Start Menu folder and click the *Next* button.

You may accept the default name, “StorView” or create your own custom Start Menu folder name by entering the desired name.



**Figure 2–7** Start Menu Folder Screen

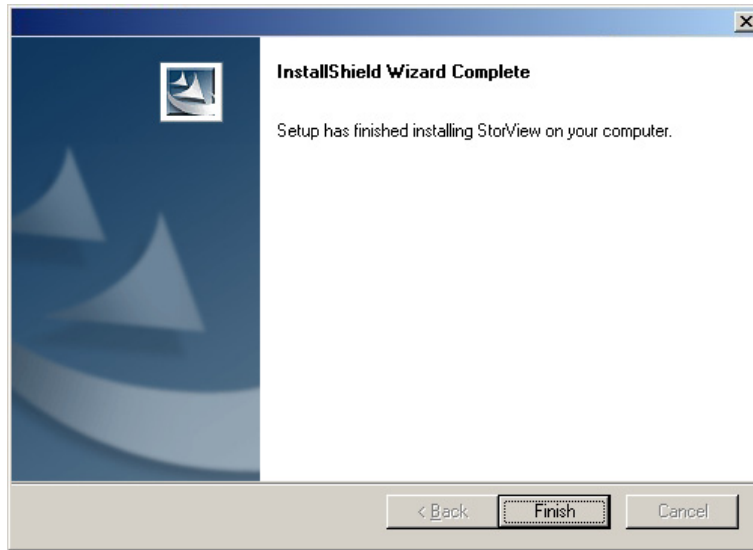
The installation will begin. You may cancel the installation by clicking the *Cancel* button at any time.



**Figure 2–8** Installation Destination Directory Screen

During the installation you will see several screens appear while the installer completes the StorView installation, followed by the installation and configuration of the HTTP web server software.

- 9 Once the installation is complete, a screen is displayed indicating the status of the installation. Click the *Finish* button.



**Figure 2–9** Installation Complete Screen

- 10 Start StorView by opening your web browser software and entering the IP address of the host computer attached to the storage solution followed by the port number. The format is "HTTP://<your\_IP>:9292," "HTTP://127.0.0.1:9292" or "HTTP://localhost:9292." Refer to the StorView Storage Management Software - RAID Module User Guide for more information.

## 2.2.3 Upgrading StorView on Microsoft Windows

The process of upgrading StorView when an older version exists requires the user to run the installer twice. The first part of the install will remove the existing application, followed by a fresh new installation during the second install phase.

- 1 Insert the Software and Manuals Disc into your CD drive.
- 2 Click the StorView Installation link below the Software group. The installer Welcome screen will appear.
- 3 Follow the on-screen prompts. You will receive a prompt to completely remove the application. Click on *OK* to continue.
- 4 After the previous software installation is removed you will receive a Maintenance Complete screen. Click the *Finish* button.
- 5 Run the installation procedure again to install the new software, [see 2.2.2 "Installing StorView" beginning on page 4.](#)

## 2.2.4 Hardware Pseudo-Driver for Microsoft Windows

A "inf" pseudo-driver file should be installed on all Microsoft Windows host systems to which the storage is attached. The driver file is located on the Software and Manuals Disc.

Insert the Software and Manuals Disc, the autorun program will open and click the *Pseudo LUN Driver (INF)* button and follow the on-screen installation instructions.

## 2.2.5 Removing StorView from Microsoft Windows

**Note** You may also choose to use the *Control Panel > Add or Remove Programs* option to remove StorView.

- 1 Insert the Software and Manuals Disc into your CD drive.
- 2 Click the *StorView Installation* link below the Software group. The installer Welcome screen will appear.  
  
The software senses the existing installation of StorView and will automatically prompt to remove it.
- 3 Click the *OK* button to continue with removing the software, or click the *Cancel* button to exit without removing the software. After the software has been completely removed you will receive a confirmation.

## 2.3 Setup for Linux Platforms

### 2.3.1 System Requirements

The following are the minimum system requirements to install and use StorView on a Linux platform:

- A personal computer or server with an Intel Pentium III type processor or compatible.
- 128 MB RAM.
- CD-ROM drive and 100 MB hard disk space.
- 256 color video adapter. (Minimum display settings should be 1024x768.)
- Operating systems - Red Hat® Enterprise Linux AS/ES (RHEL 3 &4), or SuSE® Linux Enterprise Server 8 and 9.
- Web browser that is compliant with HTTP 1.1 and JavaScript 1.3 or later.
- Network adapter.
- RS-4835-F4-5404E, RS-1220-F4-5402E, RS-1220-F4-5412E, RS-1220-E3-5402E, and/or RS-1220-E3-5412E Storage systems.

### 2.3.2 Installing StorView

**Note** The Global license serial number and activation code are located on a label on the disc package.

- 1 Log in as “root.”
- 2 Insert the Software and Manuals Disc into your CD drive.
- 3 Change directories to the software location.

```
cd [CDROM mount point path]/software/storview/linux
```

- 4 Execute the installer. Type:  
`./StorViewInstall`

**Note** If you receive a message that there is no match for your version of Linux, you will be presented with a list to choose from of the available certified operating systems.

- 5 Follow the on-screen prompts.

The following utilities are provided to manage StorView:

```
/opt/StorView/StartStorView  
/opt/StorView/StopStorView  
/etc/rc.d/init.d/StorView {start|stop}
```

The directory where the software installs is the `/opt/StorView` directory.

To start StorView and the Apache web server, type the following:

```
./StartStorView
```

To stop StorView and the Apache web server, type the following:

```
./StopStorView
```

To determine if StorView is running, type the following:

```
ps -ef | grep -i StorView
```

Look for a running process named StorViewServer. There will be several of them. The Apache web server process is named "httpd."

The above command uses the recommended options, however you may use other options.

Linux also has a pgrep command. Type "pgrep StorViewServer" or "pgrep httpd" and get a list of process IDs. No IDs means it is not running.

- 6 Start StorView by opening your web browser software and entering the IP address of the host computer attached to the storage system followed by the port number. The format is "HTTP://1<your\_IP>:9292," "HTTP://127.0.0.1:9292" or "HTTP://localhost:9292." Refer to the StorView Storage Management Software - RAID Module User Guide for more information.

## 2.3.3 Removing StorView from Linux Platforms

- 1 Log in as "root."
- 2 Change directories.  

```
cd /opt/StorView
```
- 3 From the command prompt, type  

```
./UninstallStorView
```

## 2.4 Embedded StorView Initial Setup

If this is the first startup of the Embedded StorView module, you will need to configure the network settings. The embedded module supports both DHCP and manual network settings. By default the embedded module will look for a DHCP server to obtain an IP address. If one is not found, it will search to determine if an IP address had been previously assigned. If an address was not previously assigned, then the system defaults to the following IP addresses:

10.1.1.5 for the lower or left RAID Controller (Controller 0)  
10.1.1.6 for the upper or right RAID Controller (Controller 1)  
10.1.1.7 if an error is detected  
Subnet Mask is 255.0.0.0

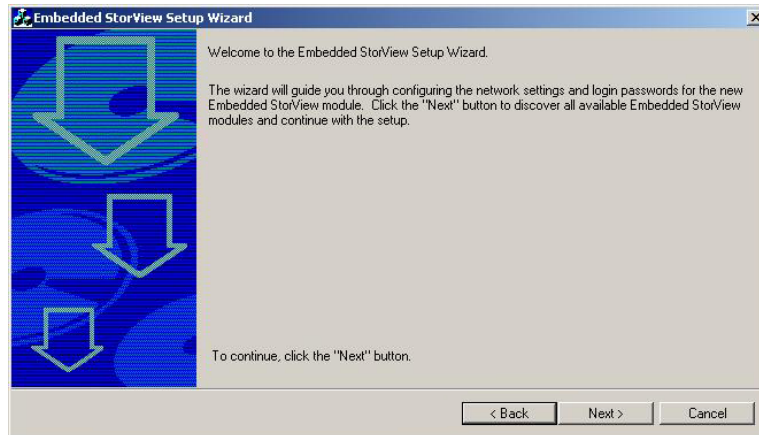
A tool is provided to configure new embedded module. From Microsoft Windows platforms it is accessed via the embedded link on the disc navigation menu and on Linux it is accessed via a command line executable. Refer to the appropriate platform setup, [see 2.4.1 "Setting up the Embedded StorView Module: Microsoft Windows" beginning on page 12](#) or [see 2.4.2 "Setting up the Embedded StorView Module: Linux" beginning on page 15](#).

When the Embedded StorView Setup program is run, it will broadcast UDP packets and any Embedded StorView module will reply with UDP packets containing their information. A list of "uninitialized" systems is displayed. Uninitialized systems are those which have not had the default user name and password changed. Even if a configuration is created with arrays and logical drives but the login name and password have not been changed, it will still be considered an uninitialized system. During the process of configuring an embedded module, you will be required to enter a "new" password and confirm that password. The default password is the word "password."

The Embedded StorView module is identified by its MAC and IP address. It may be more helpful during setup to configure one embedded module at a time. You will find the MAC address by accessing the VT-100 RAID Configuration Utility, selecting *Diagnostics* then choosing *StorView Embedded Module Support*. Select *Enter StorView Embedded Module Menu Mode* and selecting *View Network Settings*.

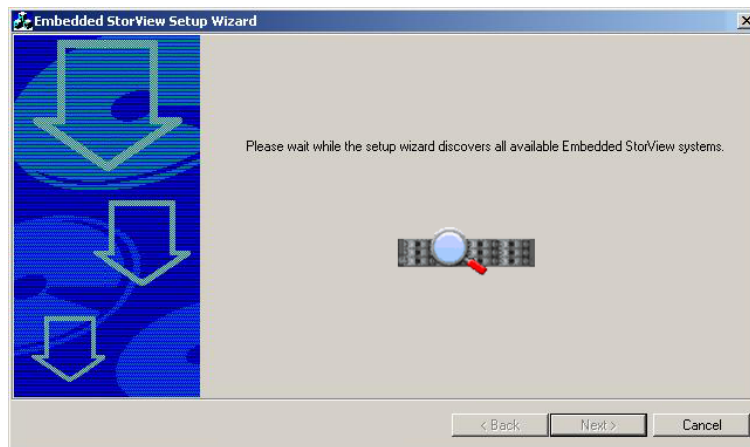
### 2.4.1 Setting up the Embedded StorView Module: Microsoft Windows

- 1 Insert the Software and Manuals Disc into your CD drive. The autorun program will automatically start the navigation menu.
- 2 Click the "Embedded StorView Setup Wizard" link to begin the configuration.
- 3 You are presented with a Welcome screen with instructions to proceed. Review the information and click the *Next* button.



**Figure 2–10** Embedded StorView Setup Wizard - Welcome Screen

- 4 The program will begin searching for Embedded StorView modules.

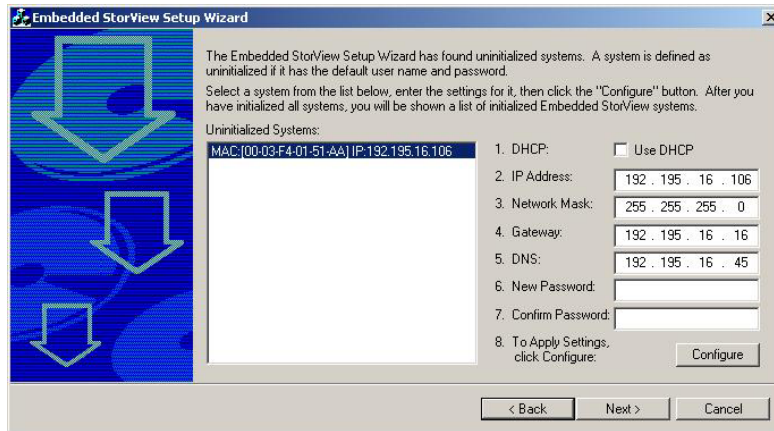


**Figure 2–11** Embedded StorView Setup Wizard - Search Screen

Those embedded modules with their default password intact will be displayed with their MAC address in an Uninitialized list window. If all discovered embedded modules have had their default passwords changed, then you will be taken to the Initialized screen.

- 5 From the Uninitialized screen, select the MAC address of the embedded module you wish to configure.

If you wish to use a DHCP server to assign your IP address, click the check box “Use DHCP.”



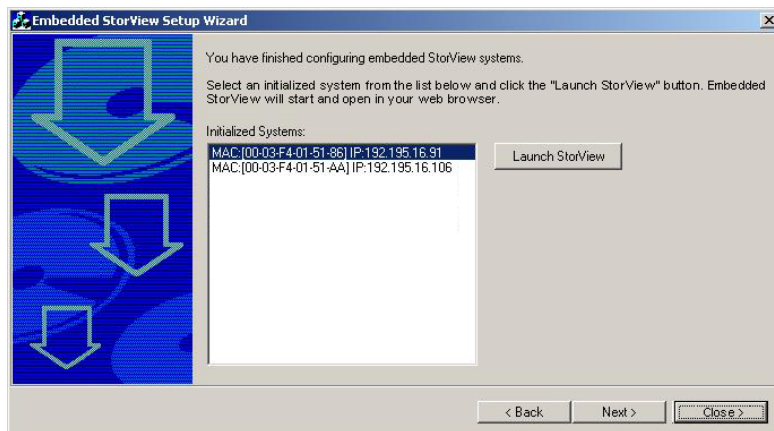
**Figure 2–12** Embedded StorView Setup Wizard - Uninitialized Screen

If you wish to manually configure your network setting, enter the correction information in the appropriate fields.

Enter a “new” password and confirm the new password. Click the *Configure* button.

- 6 If you have additional uninitialized embedded modules, select the next MAC address and choose the appropriate settings from the previous step.

Once you have completed configuring all the uninitialized embedded modules and have clicked the *Configure* button, the wizard will display a popup message indicating all systems have been configured. It will then re-scan for systems and if none are found, you will be taken to the Initialized screen. If someone plugs in a uninitialized module system to the network (same subnet mask) during the time of the rescan or resets a system’s password back to the defaults, you will be taken to the Uninitialized screen again.



**Figure 2–13** Embedded StorView Setup Wizard - Initialized Screen

- 7 Select the MAC address of the embedded module you wish to start and click the *Launch StorView* button.
- 8 Your default web browser will open with a login screen. Enter the login name and “new” password then click *OK*. The StorView Main screen will open.

## 2.4.2 Setting up the Embedded StorView Module: Linux

- 1 Log in as “root.”
- 2 Insert the Software and Manuals Disc into your CD drive.
- 3 Change directories to the software location. Type:  

```
cd [ CDROM mount point path ] /software/storview/embedded
```
- 4 Execute the Embedded StorView Setup Tool. From the command prompt, type:  

```
./esvsetupcl-linux  
Embedded StorView Setup Tool. v1.0  
Entering Menu Mode.
```
- 5 Follow the on screen prompts. At the conclusion of the setup you will be instructed on how to proceed.



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