

User Guide

Microsemi Adaptec Event Monitor

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Revision History

Revision	Revision Date	Details of Change
5	August 2019	Add NRMconfig.ini parameters for Smart controllers and other misc config settings. Updated default value for 'eventQueueSize' parameter to 1300.
4	March 2019	Update supported OSs, add support for Smart Storage adapters, update install and uninstall instructions.
3	May 2018	Remove "Proprietary and Confidential" markings in footer text.
2	September 2016	Update supported OSs; add installing on powerpc instructions; update installing on FreeBSD; update uninstalling on FreeBSD.
1	April 2016	Update supported OSs; add downloadable installer instructions; add /etc/init.d start/stop method for linux

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Contents

1 Overview.....	1
2 Installing and Uninstalling the Event Monitor Utility.....	2
2.1 System Requirements.....	2
2.2 Downloading the Installation Packages.....	2
2.3 Installing on Windows.....	2
2.4 Performing a Silent Windows Installation.....	3
2.4.1 Windows Command Line Properties and Examples.....	4
2.5 Installing on Red Hat Linux and Cent OS.....	5
2.6 Installing on Debian Linux and Ubuntu Linux.....	5
2.7 Installing on FreeBSD.....	6
2.8 Installing on PowerPC.....	6
2.9 Uninstalling the Event Monitor Utility.....	6
3 Stopping and Starting the Event Monitor Service.....	8
4 Configuring Event Monitor.....	9
5 Email Notifications in Linux Event Monitor.....	11
6 Event Monitor Log Files.....	12
7 Frequently Asked Questions.....	13
8 More Information.....	14

1 Overview

The Microsemi Adaptec[®] Event Monitor utility is a software application that monitors and manages the Microsemi Adaptec storage controllers installed on your system. Its job is to monitor system health, send notifications, and manage task schedules and other on-going processes. It sends notices when tasks are completed successfully, such as the creation of a logical drive, and sounds an alarm when errors or failures occur.

The Microsemi Adaptec Event Monitor Utility runs on Windows and Linux systems (see [System Requirements](#) on page 2 for details). Once it is installed, it runs in the background with no user intervention.

When you install the Event Monitor utility, the Microsemi Adaptec Command Line Interface tool, ARCCONF, is installed automatically. The CLI tool allows you to build and manage your storage space; create logical drives; add redundancy to protect your data; check status; recover from a failed physical device; rebuild logical drives; and more. See [Frequently Asked Questions](#) for related documentation.

2 Installing and Uninstalling the Event Monitor Utility

You can install the Event Monitor utility using an interactive Installation wizard, or you can perform a “silent” installation from the command line without messages or user interaction. The silent installation method is suitable for scripted or “batch” installations across multiple machines.

Note: You must install the Event Monitor utility on every system that will be part of your storage space.

2.1 System Requirements

To install the Microsemi Adaptec Event Monitor Utility, each machine must meet these requirements:

- 20 MB of free disk space
- Microsemi Adaptec storage controller
- One of these operating systems:
 - Microsoft® Windows® Server, Windows SBS, Windows 10, Windows 8.x, Windows 7 (x64)
 - Red Hat® Enterprise Linux/CentOS (x64)
 - SuSE Linux Enterprise Server (x64)
 - Oracle Linux (x64)
 - Citrix xenServer (x64)
 - Debian Linux (x64)
 - Ubuntu Linux (x64)
 - FreeBSD (x64)

2.2 Downloading the Installation Packages

Complete these steps to download the installation package for your operating system(s):

1. Open a browser window, then type `start.microsemi.com` in the address bar.
2. Select your RAID controller family (Series 8, Smart Storage adapter) and controller model.
3. Select **Storage Manager Downloads**.
4. Select **Adaptec Event Monitor** (for Windows and Linux).
5. Click **Download Now** and accept the license agreement.
6. When the download completes, extract the contents of the installer archive file to a temporary location. The archive includes installers for multiple operating systems; each installer is stored in a separate folder.
7. Continue with the installation instructions for your operating system.

2.3 Installing on Windows

Note: You need administrator privileges to install the Microsemi Adaptec Event Monitor Utility. For details on verifying privileges, refer to your operating system documentation.

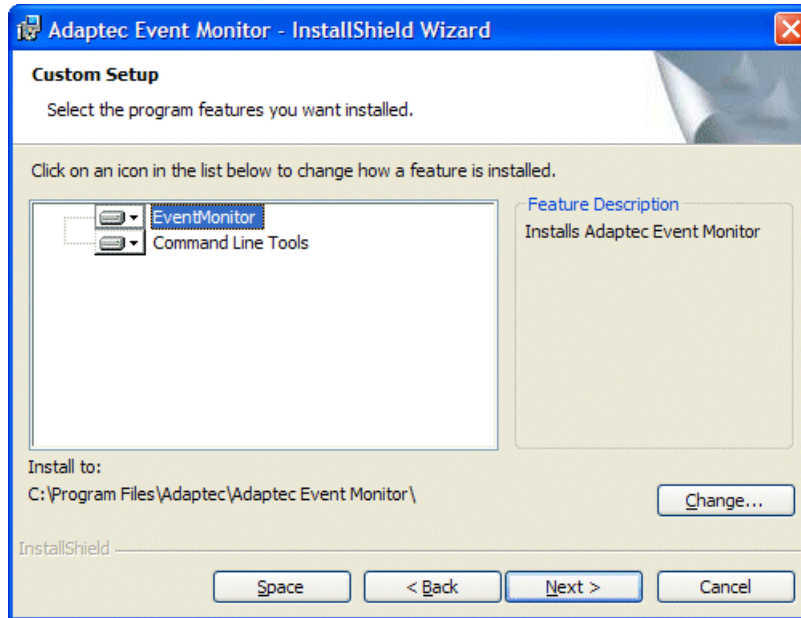
To install the Microsemi Adaptec Event Monitor Utility on Windows systems:

1. Open Windows Explorer or My Computer, then change to the directory where the Windows installer package is located (see [Downloading the Installation Packages](#) for details).
2. Double-click the setup program for your operating system version:

Option	Description
Windows 64-bit	setup_AdaptecEventMonitor_x64_xxxxx.exe

The Installation wizard opens.

- Click **Next** to begin the installation, click **I accept the terms...**, and then click **Next**.
- Select **EventMonitor**, accept the default installation directory or click **Change...** to select a different installation directory; and then click **Next**.



Note: To check disk space availability, click **Space**, review disk space usage, and then click **OK**.

- Click **Install**, and then click **Finish**.
- Repeat these steps to install the Microsemi Adaptec Event Monitor Utility on every Windows system that will be part of your storage space.

2.4 Performing a Silent Windows Installation

To complete a silent Windows installation:

- Open a command prompt window then change to the directory where the Windows installer package is located (see [Downloading the Installation Packages](#) for details).
- Run the silent installation from the command line (where xxxxx is the version number):
 - EventMonitorInstaller_x64_xxxxx.exe

For a silent installation, the installer has the following form:

```
EventMonitorInstaller_x64_xxxxx.exe [ INSTALLDIR=<path> ] [ LOGDIR=<path> ] [
  ADDLOCAL=<properties> ]
```

See [Windows Command Line Properties and Examples](#) on page 4 for a description of the command line options.

After a minute or two, the silent installation should be complete. You may need to reboot the system if instructed to do so in the install log (see next step).

- Check the install log, at <LOGDIR>\eventmonitor_install.log, to verify that the installation completed successfully. The exit codes, shown below, indicate if you need to take further action to complete the installation.

Table 1 • Windows Command Line Exit Codes

Code	Value	Meaning
SUCCESS	0	The installation was successful. No re-boot is required.
FAILURE_GENERAL	1	The installation was not successful.
SUCCESS_REBOOT	2	The installation was successful, but a reboot is required.
SUCCESS_NOT_REQUIRED	3	Required hardware is not present, the software is up to date, or there is nothing to install.

Note: For more information about the success or failure of the installation, check the detailed installation log at <LOGDIR>\adaptecc.log. If the installation failed, you will find detailed information to help you diagnose the problem.

- Repeat these steps to install the Microsemi Adaptec Event Monitor Utility on every Windows system that will be part of your storage space.

2.4.1 Windows Command Line Properties and Examples

A command-line installation (or “silent” installation) uses command-line parameters to complete an installation without messages or user interaction.

Command Line Properties

Table 2 • Optional Command Line Properties

Property	Values
INSTALLDIR (Optional)	Specifies the installation path. For example: INSTALLDIR=C:\Program Files\EventMon Note: If you do not set the installation path, the installer uses the following default path: C:\Program Files\Adaptec\Adaptec Event Monitor
LOGDIR (Optional)	Specifies the installation log path. For example: LOGDIR=C:\Program Files\EventMon\InstallLogs Note: If you do not set the installation log path, the installer uses the following default path: C:\PMCS\Log
ADDLOCAL (Optional)	Note: Use commas to separate multiple values. <ul style="list-style-type: none"> ALL—Installs all of the following features. If you specify ALL, do not also specify any of the following values. EventMonitor—Installs the Microsemi Adaptec Event Monitor. CLITools—Installs the Command Line Interface tool (ARCCONF).

Example Command Line Installations

Note: In the examples below, xxxxx is the installer version number.

- To install the Microsemi Adaptec Event Monitor, CLI tools (ARCCONF), and installation logs in the default location:

```
EventMonitorInstaller_x64_xxxxx.exe
```

- To install the Microsemi Adaptec Event Monitor, CLI tools, and installation logs to a different installation path:

```
EventMonitorInstaller_x64_xxxxx.exe INSTALLDIR=C:\Adaptec\EventMon
LOGDIR=C:\Adaptec\EventMon\InstallLogs
```

- To install the Microsemi Adaptec Event Monitor and CLI tools to the default location and the installation logs to a different installation path:

```
EventMonitorInstaller_x64_xxxxx.exe LOGDIR="C:\Program Files\Adaptec\Adaptec
Event Monitor\InstallLogs"
```

Note: Be sure to enclose the installation path in double quotes if the pathname includes spaces (as in the example above). Do *not* include a trailing \ on the leaf directory, however, for example InstallLogs\; it will be interpreted as an escape sequence for the outside quote.

- To install just the CLI tools on a 64-bit Windows system:

```
EventMonitorInstaller_x64_xxxxx.exe ADDLOCAL=CliTools
```

2.5 Installing on Red Hat Linux and Cent OS

For Red Hat Linux and Cent OS, the Microsemi Adaptec Event Monitor package consists of a RPM file. You can install the RPM package by double clicking the file in a GUI interface. Alternatively, run the RPM command from the Linux shell (where xxxxx is the version number):

```
rpm -ivh EventMonitor-3.01-xxxxx.x86_64.rpm (64-bit)
```

Where xxxxx is the build version.

Once the RPM is installed, the files are stored under `/usr/Adaptec_Event_Monitor`. This directory also includes the Microsemi Adaptec Command Line Utility ARCCONF, which allows you to configure your RAID storage. The installation creates a user process called 'EventMonitor', which runs on the system that will monitor the Microsemi Adaptec storage controller for events.

2.6 Installing on Debian Linux and Ubuntu Linux

For Debian and Ubuntu Linux, the Microsemi Adaptec Event Monitor is distributed as a .deb package. You can install the .deb package from the Linux shell with this command (where xxxxx is the version number):

```
dpkg -i EventMonitor-3.01-xxxxx_amd64.deb (64-bit)
```

Where xxxxx is the build version.

Once the DEB package is installed, the files are stored under `/usr/Adaptec_Event_Monitor`. This directory also includes the Microsemi Adaptec Command Line Utility ARCCONF, which allows you to configure your RAID storage. The installation creates a user process called 'EventMonitor', which runs on the system that will monitor the Microsemi Adaptec storage controller for events.

2.7 Installing on FreeBSD

For FreeBSD, use the `pkg_add` command to install the Microsemi Adaptec Event Monitor (where `xxxxx` is the version number):

```
pkg_add Adaptec_Event_Monitor-3.01-xxxxx-amd64.pkg.tbz (64-bit)
```

```
(For FreeBSD 10.x) pkg add Adaptec_Event_Monitor-3.01-xxxxx.txz
```

Where `xxxxx` is the build version.

Once the package is installed, the files are stored under `/opt/Adaptec_Event_Monitor`. This directory also includes the Microsemi Adaptec Command Line Utility `ARCCONF`, which allows you to configure your RAID storage. The installation creates a user process called 'EventMonitor', which runs on the system that will monitor the Microsemi Adaptec storage controller for events.

2.8 Installing on PowerPC

Note: Event Monitor for PowerPC is supported on Adaptec Series 8 and HBA1000 controllers only, for the following OS versions:

- Ubuntu 16.04
- RHEL 7.2
- Ubuntu 14.04.4
- SUSE Linux 12 SP1
- PowerKVM 3.1.0.1
- Installing Event Monitor:
 - Installing on RHEL PowerPC 64-bit

```
rpm -i EventMonitor-3.01-xxxxx.ppc64le.rpm
```

- Installing on Ubuntu PowerPC 64-bit

```
dpkg -i EventMonitor_3.01-xxxxx.ppc64el.deb
```

- Installing on SLES PowerPC 64-bit

```
rpm -i EventMonitor-3.01-xxxxx.ppc64le.rpm
```

Where `xxxxx` is the build version.

2.9 Uninstalling the Event Monitor Utility

To uninstall Microsemi Adaptec Event Monitor, follow the instructions for your operating system.

Note: If a previous version of Microsemi Adaptec Event Monitor is installed on your system, you must remove it before beginning a new installation.

Uninstalling on Windows

To uninstall Microsemi Adaptec Event Monitor from a Windows system, use the Add or Remove Programs tool in the Control Panel. All Microsemi Adaptec Event Monitor components are uninstalled.

Uninstalling on Linux Red Hat or Cent OS

Type the command: `rpm -e EventMonitor`

Uninstalling on Debian Linux or Ubuntu Linux

Type the command: `dpkg -r EventMonitor`

Uninstalling on FreeBSD

To uninstall on a FreeBSD system:

1. Change to the `/var/db/pkg` directory:

```
cd /var/db/pkg
```

2. Type the command: `pkg_delete Adaptec_Event_Monitor*`

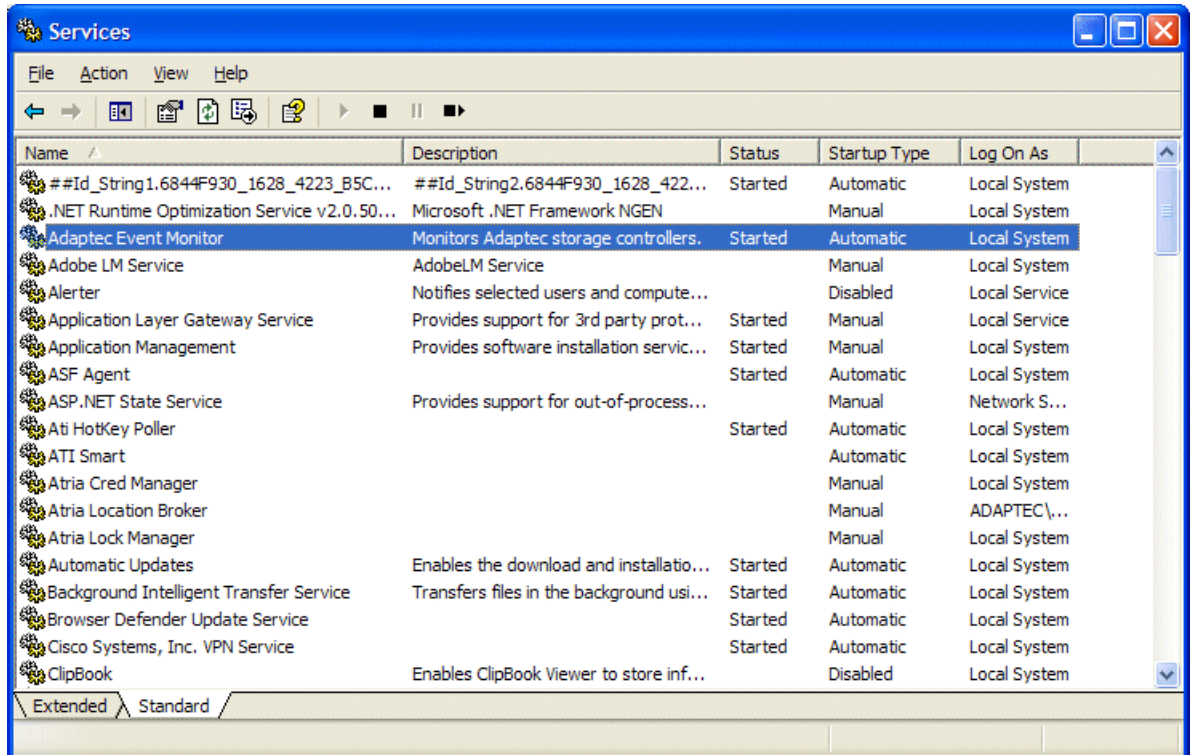
3. (For FreeBSD 10.x) Type the command: `pkg delete Adaptec_Event_Monitor`

3 Stopping and Starting the Event Monitor Service

When you complete a Windows or Linux installation, the Event Monitor service starts automatically.

Stopping and Starting the Service on Windows

To stop the service, restart the service, or disable the service, use the `services.msc` program (Administrative Tools) in the Windows Control Panel. The service name, highlighted in the figure below, is Microsemi Adaptec Event Monitor.



Stopping and Starting the Service on Linux and Unix

To stop and start the 'EventMonitor' process on a Linux system, use one of the following commands:

```
/usr/Adaptec_Event_Monitor/EventMonitorService <start | stop>
/etc/init.d/EventMonitorService <start | stop | restart>
```

With the `/etc/init.d` method, a return status of 0 indicates success, which is returned for the following conditions:

- Running start on a service already running
- Running stop on a service already stopped or not running
- Running restart on a service already stopped or not running

To stop and start the 'EventMonitor' process on a FreeBSD system, use the following command:

```
/opt/Adaptec_Event_Monitor/EventMonitorService <start | stop>
```

4 Configuring Event Monitor

You can set the following property values in the Event Monitor configuration file, `NRMConfig.ini`, to control its behavior:

- **nrm.eventQueueSize**—the number of events to store before they are posted to the log files. The default is 1300:
`nrm.eventQueueSize=1300`
- **nrm.debugMask**—the level of debug message output. The following values are supported:
`nrm.debugMask=0` ; normal output. Only serious problems are logged (default)
`nrm.debugMask=1` ; normal output + events logged to `NRMEvents.log`
`nrm.debugMask=2` ; full debug output
- **nrm.smartRefreshTime**—time in seconds to refresh the dynamic properties for Smart controller devices. The default is 20:
`nrm.smartRefreshTime=20`
- **agent.OSLoggingLevel**—the operating system event logging level. The following values are supported:
`agent.OSLoggingLevel=0` ; no event logging
`agent.OSLoggingLevel=1` ; error events only
`agent.OSLoggingLevel=2` ; error and warning events
`agent.OSLoggingLevel=3` ; error, warning, and informational events (default)
- **agent.alarm**—enable or disable the audible alarm. The following values are supported:
`agent.alarm=on` ; warning and informational events trigger the alarm (default)
`agent.alarm=off` ; alarm disabled

Note: The property value is not case-sensitive.
- **nrm.uniqueEventCode**—enable unique event codes. The following values are supported:
`nrm.uniqueEventCode=0` ; old event codes (default)
`nrm.uniqueEventCode=1` ; unique 5-digit event codes
- **nrm.enableSmartPolling**—enable SMART parameters polling. The following values are supported:
`nrm.enableSmartPolling=0` ; disable frequent polling (default)
`nrm.enableSmartPolling=1` ; enable SMART parameters polling
- **nrm.eventPollingInterval**—Event polling interval in seconds. This value indicates the polling interval between retrieving events, and takes values between 1 - 86400. The default (and recommended) value is 5:
`nrm.eventPollingInterval=5`

Note: Changing this parameter to a large value may result in an observable lag in GUI updates.

`nrm.enableSmartPolling=0` ; disable frequent polling (default)
`nrm.enableSmartPolling=1` ; enable SMART parameters polling
- **nrm.smartUartLogPolling**—enable Smart controller UART Log polling. The following values are supported:
`nrm.smartUartLogPolling=0` ; disable polling (default)

`nrm.smartUartLogPolling=1` ; enable Smart controller UART Log polling

- **nrm.smartUartLogFileSizeInMB**—Smart controller UART Log file size, in megabytes (MB). The default is 4:

```
nrm.smartUartLogFileSizeInMB=4
```

Note: Make sure there is enough OS filesystem free space before modifying this parameter.

- **nrm.smartUartLogFileMaxRollingCount**—Smart controller UART Log file max. rolling count. The default is 3:

```
nrm.smartUartLogFileMaxRollingCount=3
```

Note: Make sure there is enough OS filesystem free space before modifying this parameter.

- **nrm.smartUartLogPollingInSeconds**—Smart controller UART Log polling, in seconds. The default (and recommended) value is 100:

```
nrm.smartUartLogPollingInSeconds=100
```

Note: Changing this parameter to a large value may decrease controller performance.

- **nrm.noDiskInfo**—enable/disable discovery of disk partition information from OS. The following values are supported:

```
nrm.noDiskInfo=1 ; Disable discovery of disk partition information
```

```
nrm.noDiskInfo=0 ; Enable discovery of disk partition information (default)
```

Note: Setting the value to 1 disables the display of disk partition information and related events in maxView Storage Manager. maxView will not be able to block the user from deleting logical drives with an OS partition.

See the `NRMConfig.ini` file, in the installation directory, for a complete list of values for each property. See [Email Notifications in Linux Event Monitor](#) for more on event logging.

5 Email Notifications in Linux Event Monitor

The Email Notification feature in Event Monitor for Linux allows you to send notification emails based on the events reported by the Event Monitor utility. This feature is disabled by default; it can be configured after the Event Monitor utility is installed. Once configured, the email notification feature runs in the background with no user intervention.

Configuring Email Notifications

The Event Monitor package includes a script named `configureEmailSettings.sh`. Use this script to configure the email notification settings below.

Note: The `configureEmailSettings.sh` script runs only on the bash shell.

- **Enable Email Notification**

Enables the Email Notification feature in Event Monitor.

- **Disable Email Notification**

Disables the Email Notification feature in Event Monitor.

- **Get SMTP Server Details**

Returns the current SMTP server settings.

- **Set SMTP Server Details**

Configures the SMTP server settings. The Event Monitor utility can store information about one SMTP server only. If you already have an existing SMTP server setup, this option will overwrite the existing SMTP server settings with new settings. You can configure the following SMTP server details:

- **SMTP Server Address**—IP address of your SMTP Server.
- **SMTP Server Port**—port number on which your SMTP server is running.
- **From Email Address**—from email address.
- **Secure SMTP Server**—To use a secure SMTP server, choose 'YES' for this option. You will need to provide a username and password for your SMTP server.

- **Get Recipient Information**

Displays the list of recipients who will receive email notifications from Event Monitor.

- **Set Recipient Information**

Sets the recipient information for users who receive notifications from Event Monitor, including:

- **Recipient's Email Address**—email address of the recipient.
- **Email Notification Type**—type of event(s) the recipient is notified of:
 - **I**—If this option is selected, the recipient will receive emails for Error, Warning and Informational events.
 - **W**—If this option is selected, the recipient will receive emails for Error and Warning events.
 - **E**—If this option is selected, the recipient will receive emails for Error events only.
- **Update Recipient Information**

Updates the notification type for a specific recipient.
- **Delete Recipient Information**

Deletes a specific recipient from the recipient list.
- **Send Test Email**

Sends a test email based on your SMTP server settings.

Note: After running the configuration script, restart the Event Monitor utility for the configuration settings to take effect.

6 Event Monitor Log Files

Windows Log Files

The Event Monitor utility logs events to the Windows Event Viewer (the operating system event logging utility) and to the Event Monitor log files. The log files are available at the default log path for an interactive installation (`C:\PMCS\LogS`), or the `<LOGDIR>` directory, for a silent installation. Events are logged to `NRMFSAEvents.log` for error, warning, and informational events, and `NRMFSADebug.log` for debug messages.

Linux and Unix Log Files

The Event Monitor utility logs events to the Syslogs (`/var/log/messages`) and to the Event Monitor log files. The Event Monitor log files are located under the `/var/log` directory. Events are logged to `NRMFSAEvents.log` for error, warning, and informational events, and `NRMFSADebug.log` for debug messages.

7 Frequently Asked Questions

1. Can I install the Event Monitor utility if I already have maxView Storage Manager installed?

No.

2. How do I filter out events from Event Monitor for Windows?

In Windows System Logs, click **Filter Current Log**. You will see 'Adaptec Event Monitor' in the Event Sources list if Event Monitor is running on the system. Select **Adaptec Event Monitor** from the list of Event Sources, then click **OK**.

3. How do I filter out events from Event Monitor for Linux?

Type this command:

```
grep /var/log/messages "Adaptec Event Monitor"
```

4. What event levels does Event Monitor report?

Event Monitor reports three event levels in the system log: Warning, Error, Information.

5. What is the format of the events under Linux syslogs?

The events under Linux syslogs have this format:

```
Adaptec Event Monitor: INF | WRN | ERR: [Event Code] Event Description
```

6. Can I install Event Monitor over an existing installation?

No. You need to uninstall the existing Event Monitor before you install a new one.

7. Does Event Monitor support Email Notifications on Windows?

No.

8. Does the Email Notification feature support multiple SMTP servers?

No. You can configure only *one* SMTP server for Email notifications.

9. Does `configureEmailSettings.sh` work on shells other than bash?

No. It runs only on the bash shell.

8 More Information

For more information about the Event Monitor utility, see:

- *Microsemi Adaptec Command Line Utility User's Guide*—It provides complete information about how to use the ARCCONF command line tool to manage your Microsemi Adaptec storage controller.

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