

Dell OpenManage™  
Server Administrator Version 2.3  
Compatibility Guide

## Notes and Notices



**NOTE:** A NOTE indicates important information that helps you make better use of your computer.



**NOTICE:** A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

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# Introduction

## Overview

Dell OpenManage™ Server Administrator provides a powerful, integrated set of systems management applications for keeping the systems on your network healthy. Server Administrator provides fault management information, pre-failure information, and asset and inventory information to management applications. You can install the Server Administrator from the *Dell™ PowerEdge™ Installation and Server Management* CD provided with your system. In addition to supporting systems management industry standards, Server Administrator also provides additional systems management information about the components of your specific system. Server Administrator can also run diagnostics and configure BIOS and system settings.

 **NOTE:** Starting with Dell OpenManage version 4.3, the *Systems Management* CD has been replaced by the *Dell PowerEdge Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

Server Administrator's integrated security draws on the system's operating system security. Server Administrator uses the secure socket layer (SSL) encryption protocol.

 **NOTE:** For more information on the secure socket layer, see the Dell Support website at [support.dell.com](http://support.dell.com).

## What's New in Dell OpenManage Version 4.5.1?

The following changes in the Dell OpenManage version 4.5.1 (Dell OpenManage Server Administrator version 2.3) affect the Compatibility Guide:

- Added Serial Attached SCSI (SAS) support for Dell PowerEdge 6800 and 6850
- Removed support for Novell® NetWare® on Dell PowerEdge 6800 and 6850
- Added support for PERC 5/e
- Added support for a new SAS hard drive enclosure — Dell PowerVault™ MD1000

 **NOTE:** The Dell OpenManage version 4.5.1 release supports only these PowerEdge systems: 6800 and 6850.

## Purpose of This Guide

Server Administrator operates on many Dell hardware platforms (hereafter called systems) with operating systems such as Microsoft® Windows® and Red Hat® Enterprise Linux. To use the systems management features of Server Administrator fully, you must understand which features of Server Administrator match your system's hardware configuration and operating system.

## Update of Compatibility Guide

The *Server Administrator Compatibility Guide* is updated each business quarter. It summarizes all *Dell PowerEdge Installation and Server Management* CD releases that precede the current release date in its Table of Contents ([index.htm](#)) page. Always consult the [readme.txt](#) file on your *Dell PowerEdge Installation and Server Management* CD for each release for the most current information on compatible systems management elements.

 **NOTE:** You can find systems management software on the *Systems Management* CD for Dell OpenManage versions prior to version 4.3 of the CD. You can find systems management software on the *Applications* CD prior to version 3.0 of the CD. The systems management software was relocated to the *Systems Management* CD beginning with version 3.0. For the purposes of this guide, some references to the *Systems Management* CD may also include the *Applications* CD.

## Supported Instrumentation

Each supported *Dell PowerEdge Installation and Server Management* CD contains instrumentation for your Dell system. Three sections of this guide are organized around the primary instrumentation product names and show the relationship among the following variables:

- *Dell PowerEdge Installation and Server Management* CD version number (or the *Systems Management* or *Applications* CD)
- Supported operating systems
- Instrumentation service
- Dell PowerEdge system product name (for example, PowerEdge 1600SC)

In Table 1-1, instrumentation product names are associated with a range of the *Applications* CD or *Systems Management* CD version (prior to Dell OpenManage version 4.3) or *Dell PowerEdge Installation and Server Management* CD numbers.

**Table 1-1. Systems Management Product Name and Corresponding Version Numbers**

Instrumentation Product Names	CD Version	Section in This Guide
Dell OpenManage Server Administrator	3.0 through 4.2 ( <i>Systems Management</i> CD)	Server Administrator Supported Applications and Systems
	4.3 or later ( <i>Installation and Server Management</i> CD)	Server Administrator Supported Applications and Systems
Dell OpenManage Server Agent	2.0 through 2.2 ( <i>Applications</i> CD)	Server Agent Supported Applications and Systems
Dell OpenManage Hardware Instrumentation Package (HIP)	1.2 through 1.7 ( <i>Applications</i> CD)	Hardware Instrumentation Package Supported Applications and Systems

## Supported Operating Systems

Server Administrator supports major operating systems offered by Microsoft and Red Hat. See the tables in this guide to find the operating system that matches the configuration of system and applications that you are installing or upgrading.

 **NOTE:** Each *Dell PowerEdge Installation and Server Management* CD supports specific operating system versions, service packs, support packs, and kernels.

For precise operating system, application, firmware, and other requirements, see the table that lists the *Dell PowerEdge Installation and Server Management* CD (or *Systems Management* CD) version for the system that you are configuring. The tables in the following sections of this guide are a good place to begin:

- Server Administrator Supported Applications and Systems
- Server Agent Supported Applications and Systems
- Hardware Instrumentation Package Supported Applications and Systems

Operating system version numbers, support packs, service packs, and kernel versions can vary with each *Dell PowerEdge Installation and Server Management* CD (or *Systems Management* CD) version and cannot be accurately generalized. For example, a particular *Dell PowerEdge Installation and Server Management* CD (or *Systems Management* CD) may support only a version of the Red Hat Enterprise Linux operating system with a specific kernel. Some systems management applications are available only on specific operating systems.

 **NOTE:** To address any Simple Network Management Protocol (SNMP) security vulnerabilities associated with an operating system, see the appropriate website for your system's operating system (for example, [www.microsoft.com](http://www.microsoft.com) or [www.redhat.com](http://www.redhat.com)).

## Supported Browsers

Server Administrator supports Microsoft Internet Explorer (IE) version 6.0 SP1 and SP2, Firefox versions 1.0 and 1.01, and Mozilla versions 1.7.1 and 1.7.3 open-source Web browsers.

 **NOTE:** Server Administrator version 4.3 and later do not support Netscape Navigator.

## Supported GUI Languages

Dell OpenManage is localized into French, German, Spanish, Japanese, and Simplified Chinese. Dell OpenManage software is localized according to the matrix in the following table. Dell does not support languages outside of this table.

The table plots the language of the Dell OpenManage GUI against the operating system languages.

**Table 1-2. Supported Dell OpenManage GUI Languages**

Dell OpenManage GUI Languages	English OS	French OS	German OS	Spanish OS	Simplified Chinese OS	Japanese OS
English	X	X	X	X	X	X
French		X				
German			X			
Spanish				X		
Simplified Chinese					X	
Japanese						X

## Other Documents You Might Need

In addition to this *Compatibility Guide*, you can find the following guides either on the Dell Support website at [support.dell.com](http://support.dell.com) or on the documentation CD:

- The *Dell OpenManage Installation and Security User's Guide* provides complete information on installation procedures and step-by-step instructions for installing, upgrading, and uninstalling Server Administrator for each supported operating system.
- The *Dell OpenManage Software Quick Installation Guide* provides an overview of applications that you can install on your management station (console) and on your managed systems and procedures for installing your console and managed system applications on systems running supported operating systems.
- The *Dell OpenManage Server Administrator User's Guide* describes the installation and use of Server Administrator. Server Administrator is a suite of management agents, installed on the managed system, that provide fault management information, pre-failure information, and asset inventory information to management console applications such as Server Administrator and IT Assistant. This guide also provides information about configuring your remote access controller (RAC).
- The *Dell OpenManage Server Administrator SNMP Reference Guide* documents the Simple Network Management Protocol (SNMP) management information base (MIB). The SNMP MIB defines variables that extend the standard MIB to cover the capabilities of systems management agents.
- The *Dell OpenManage Server Administrator CIM Reference Guide* documents the Common Information Model (CIM) provider, an extension of the standard Management Object Format (MOF) file. The CIM provider MOF documents supported classes of management objects.
- The *Dell OpenManage Server Administrator Messages Reference Guide* lists the messages that are displayed in your Server Administrator home page Alert log or on your operating system's event viewer. This guide explains the text, severity, and cause of each alert message that Server Administrator issues.

- The *Dell OpenManage Server Administrator Command Line Interface User's Guide* documents the complete command line interface for Server Administrator, including an explanation of CLI commands to view system status, access logs, create reports, configure various component parameters, and set critical thresholds.
- The *Dell OpenManage Array Manager User's Guide* is a comprehensive reference guide for configuring and managing local and remote storage attached to a system. This document is also available in HTML and PDF formats on the *Dell PowerEdge Installation and Server Management* CD, as well as from the Array Manager console as online help.
- The *Dell Remote Access Controller Installation and Setup Guide* provides complete information about installing and configuring a DRAC III, DRAC III/XT, and an ERA/O controller, configuring an ERA controller, and using a RAC to remotely access an inoperable system.
- The *Dell Remote Access Controller Racadm User's Guide* provides information about using the racadm command-line utility.
- The *Dell PowerEdge 1655MC Systems — System Configuration Guide* provides an overview of initially setting up a PowerEdge 1655MC system.
- The *Dell PowerEdge 1855 Systems — Configuration Guide* provides an overview of initially setting up a PowerEdge 1855 system.
- The *Dell Remote Access Controller Modular Chassis User's Guide* provides complete information about configuring and using the DRAC/MC to remotely manage and monitor your modular system and its shared resources through a network.
- The *Dell OpenManage Remote Install User's Guide* provides information about unattended, simultaneous provisioning and configuration solutions over the network by leveraging image-based technology.
- The *Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- The *Server Update Utility User's Guide* provides information about obtaining and using the Server Update Utility (SUU) to update your Dell PowerEdge system or to view the updates available for any system listed in the Repository.

The *Dell PowerEdge Installation and Server Management* CD contains a readme file for Server Administrator and additional readme files for most applications found on the CD.



# Server Administrator Services

## Overview

Dell OpenManage™ Server Administrator has a modular architecture that allows you to select and install the functions that are most needed in your particular IT environment. The available services vary from one operating system to another. The following sections describe the contribution of each service to your systems management capabilities.

 **NOTE:** Starting with Dell OpenManage version 4.3, the *Systems Management* CD has been replaced by the *Dell™ PowerEdge™ Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

## Descriptions of Server Administrator Services

Each service provides a functionally related set of systems management tasks that you can use to manage your system.

### Instrumentation Service

The Instrumentation Service provides rapid access to detailed fault and performance information gathered by industry-standard systems management agents. The instrumentation service allows remote administration of monitored systems, including shutdown, start-up, and security.

### Remote Access Service

The Remote Access Service provides a complete remote system management solution for systems equipped with a remote access controller (RAC) solution. The Remote Access Service provides remote access to an inoperable system, allowing the system administrator to get the system up and running as quickly as possible. The Remote Access Service also provides alert notification when a system is down and allows the system administrator to restart a system remotely. Additionally, the Remote Access Service logs the probable cause of system crashes and saves the most recent crash screen.

## Storage Management Service

Express Setup installs the enhanced Storage Management Service by default on Microsoft® Windows® systems that do not have an existing Array Manager installation. If Array Manager (also known as the basic Storage Management Service) is already installed on a Windows system, then Express Setup upgrades Array Manager to the latest version and the enhanced Storage Management Service is not installed.

 **NOTE:** Starting with Dell OpenManage version 4.5.1, on Windows systems, Array Manager cannot be installed using Custom Setup. Array Manager will be available to users only if it has been installed using a version prior to 4.5.1.

Express Setup installs the enhanced Storage Management Service by default on Red Hat® Enterprise Linux systems. Array Manager is not supported on Red Hat Enterprise Linux systems.

 **NOTE:** The basic Storage Management Service is not available on systems running Red Hat Enterprise Linux operating systems.

 **NOTE:** The Red Hat Enterprise Linux operating system provides drivers for some of the RAID controllers listed in "RAID Controller Supported Servers, Operating Systems, Firmware, and Driver Versions." However, when the basic Storage Management Service is installed on a Red Hat Enterprise Linux operating system, the Linux drivers do not report data to the Storage Management Service.

See the *Dell OpenManage Server Administrator User's Guide* for more information on basic and enhanced Storage Management Service.

## Diagnostic Service

The Diagnostic Service provides a suite of diagnostic programs that run locally on your system or remotely on a system connected to the network. The Diagnostic Service is engineered to diagnose problems on individual systems and to run concurrently with all other applications running on the system under test.

## Logs

Server Administrator displays logs of commands issued to or by the system, monitored hardware events, POST events, and system alerts. You can view logs on the home page, print or save them as reports, and send them by e-mail to a designated service contact.

# Available Services on Supported Operating Systems

Table 2-1 summarizes the services that are available for each supported operating system.

**Table 2-1. Server Administrator Services Available With Supported Operating Systems**

Operating System	Services Available
Microsoft Windows Server™ 2003 family (includes Web, Standard, and Enterprise editions) (SP1) for x64, and Microsoft Windows Small Business Server 2003 (SP1)	<ul style="list-style-type: none"> <li>• Instrumentation</li> <li>• Storage Management</li> </ul> <p><b>NOTE:</b> Basic Storage Management Service (also called Array Manager) is not supported on the x64 Edition.</p> <ul style="list-style-type: none"> <li>• Diagnostic</li> <li>• Remote Access</li> </ul>
Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server, and Microsoft Windows Small Business Server 2000) (SP3)	<ul style="list-style-type: none"> <li>• Instrumentation</li> <li>• Storage Management</li> <li>• Diagnostic</li> <li>• Remote Access</li> </ul>
Red Hat Enterprise Linux AS, ES, and WS (version 3) for Intel® Extended Memory 64 Technology (Intel EM64T) and Intel x86	<ul style="list-style-type: none"> <li>• Instrumentation</li> <li>• Diagnostic</li> <li>• Remote Access</li> <li>• Enhanced Storage Management Service (<i>Dell PowerEdge Installation and Server Management</i> CD for Dell OpenManage version 4.3 and later, or <i>Systems Management</i> CD for Dell OpenManage version 4.1 or later)</li> </ul>
Red Hat Enterprise Linux (version 4) for Intel EM64T and Intel x86	<ul style="list-style-type: none"> <li>• Instrumentation</li> <li>• Diagnostic</li> <li>• Remote Access</li> <li>• Enhanced Storage Management Service (<i>Dell PowerEdge Installation and Server Management</i> CD for Dell OpenManage version 4.3 and later, or <i>Systems Management</i> CD for Dell OpenManage version 4.1 or later)</li> </ul>



# Systems Management Standards Availability

## Overview

Dell OpenManage™ Server Administrator supports the following major systems management protocols:

- HyperText Transfer Protocol Secure (HTTPS)
- Common Information Model (CIM)
- Simple Network Management Protocol (SNMP)

 **NOTE:** See the Dell OpenManage Server Administrator *readme* file on the *Systems Management* CD for information on SNMP security concerns, as well as the Dell Support website at [support.dell.com](http://support.dell.com). You must apply updates from your operating system's master SNMP agents to ensure that Dell's SNMP subagents are secure.

 **NOTE:** After you install SNMP, it must be enabled. For more information on enabling SNMP supporting agents, see the *Server Administrator User's Guide*.

 **NOTE:** Starting with Dell OpenManage version 4.3, the *Systems Management* CD has been replaced by the *Dell™ PowerEdge™ Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

If your system supports SNMP, you must install and enable the service on your operating system. If SNMP services are available on your operating system, the Server Administrator installation program installs the supporting agents for SNMP.

HTTPS is supported on all operating systems. Support for CIM and SNMP is operating system-dependent and, in some cases, operating system-version dependent.

## Availability on Supported Systems

On supported Microsoft® Windows® operating systems, Server Administrator supports these two systems management standards: CIM/WMI and SNMP.

On supported Red Hat® Enterprise Linux operating systems, Server Administrator supports the SNMP systems management standard.

Server Administrator adds considerable security to those systems management standards. All set operations for attributes (for example, changing the value of an asset tag) must be performed with Dell OpenManage IT Assistant while logged in with the required authority. As a result of the added security that IT Assistant offers for systems management, IT Assistant is the only management console that you can use to change attributes.

## Availability on Supported Operating Systems

Table 3-1 shows the availability of the systems management standards for each supported operating system.

**Table 3-1. Availability of Systems Management Standard by Operating System**

<b>Operating System</b>	<b>SNMP</b>	<b>CIM</b>
Windows Server™ 2003 family and Windows 2000 Server family	Available from the operating system installation media	Always installed
Red Hat Enterprise Linux AS and ES (version 2.1)	Available in <b>ucd-snmp</b> package from the operating system installation media	Unavailable
Red Hat Enterprise Linux AS and ES (version 3 and version 4)	Available in <b>net-snmp</b> package from the operating system installation media	Unavailable

# Server Administrator Supported Applications and Systems

This section provides information on instrumentation, applications, and systems that are supported by the *Dell OpenManage™ Systems Management CD* versions 3.0 through 4.2, and *Dell™ PowerEdge™ Installation and Server Management CD* version 4.3 onwards.

 **NOTE:** Starting with Dell OpenManage version 4.3, the *Systems Management CD* has been replaced by the *Dell PowerEdge Installation and Server Management CD*. References in this guide to the *Systems Management CD* are for Dell OpenManage versions 3.0 through 4.2.

The *Dell PowerEdge Installation and Server Management CD* (or the *Systems Management CD*) supports both Dell OpenManage Server Administrator and Server Agent. For more information about applications and systems supported by Server Agent, see "Server Agent Supported Applications and Systems." Server Agent is referred to as the Instrumentation Service starting with *Systems Management CD* 3.x. The Instrumentation Service is also called Hardware Instrumentation Package (HIP) on older releases.

 **NOTE:** The *Systems Management CD* version 3.0 and later does not fully support the following Dell PowerEdge systems: 1300, 2100, 2200, 2300, 4100, 4200, 4300, 4350, 6100, 6300, and 6350.

 **NOTE:** The *Systems Management CD* version 3.2.1 was not released.

## Version Number Information

All software supporting the Dell PowerEdge servers and PowerVault™ NAS systems are delivered in Dell OpenManage *stack releases* that include the complete group of programs and that are fully tested for the supported platforms. An example is the Dell OpenManage 3.4.2 release of the Dell OpenManage software. The version of the software is significant. In this example, the first number (3) represents the major version number. You should upgrade your software any time Dell delivers a new major version. The second number (4) is the release number. A new release may have some minor features and fixes associated with it. You do not need to upgrade to the latest release unless that release is enabling your specific hardware or solving an issue you may be experiencing. You may skip releases as needed. The last number (2) is the hardware *platform refresh* number. This indicates that the software has been updated to support a new system. If you have older systems running version 3.4.1, there is no need to upgrade for a platform refresh.

# Compatible Systems and Applications by Installation and Server Management CD Version

Table 4-1 shows compatible applications and Dell systems for the *Dell PowerEdge Installation and Server Management* CD (versions 4.3 to 4.5.1)

**Table 4-1. Compatible Dell Systems and Applications for Installation and Server Management CD Version 4.3 to 4.5.**

Installation and Server Management CD Version	4.3	4.4	4.5	4.5.1 <sup>a</sup>
PowerEdge systems	350	350	350	6800
(* Indicates new systems for the given version of the CD)	500SC	500SC	500SC	6850
	600SC	600SC	600SC	
	650	650	650	
	700	700	700	
	750	750	750	
	800	800	800	
	1400	1400	830*	
	1500SC	1500SC	850*	
	1550	1550	1400	
	1600SC	1600SC	1500SC	
	1650	1650	1550	
	1655MC	1655MC	1600SC	
	1750	1750	1650	
	1800	1800	1655MC	
	1850	1850	1750	
	1855	1855	1800	
	2400	2400	1850	
	2450	2450	1855	
	2500	2500	2400	
	2550	2550	2450	
	2600	2600	2500	
	2650	2650	2550	
	2800	2800	2600	
	2850	2850	2650	
	4400	4400	2800	
	4600	4600	2850	
	6400	6400	4400	
	6450	6450	4600	
	6600	6600	6400	
	6650	6650	6450	
	6800*	6800	6600	
	6850*	6850	6650	

**Table 4-1. Compatible Dell Systems and Applications for Installation and Server Management CD Version 4.3 to 4.5. (continued)**

<b>Installation and Server Management CD Version</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.5.1<sup>a</sup></b>
	8450	8450	6800	
	750N	750N	6850	
	755N	755N	8450	
	770N	770N	750N	
	775N	775N	755N	
			770N	
			775N	
Supported operating systems	<ul style="list-style-type: none"> <li>• Microsoft® Windows Server™ 2003 family (includes Web, Standard, and Enterprise editions)</li> <li>• Microsoft Windows® Small Business Server [SBS] 2003</li> <li>• Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server and Windows Small Business Server 2000)</li> <li>• Novell® NetWare® 5.1 (Support Pack 7 or later, and hot fixes)</li> <li>• Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Windows Server 2003 family (includes Web, Standard, Enterprise, and x64 Editions) (SP1)</li> <li>• Microsoft Windows Small Business Server 2003 (SP1)</li> <li>• Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server and Microsoft Windows Small Business Server 2000)</li> <li>• NetWare 6.5 (Support Pack 1 or later, and hot fixes)</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Windows Server 2003 family (includes Web, Standard, Enterprise, and x64 Editions) (SP1)</li> <li>• Microsoft Windows Small Business Server 2003 (SP1)</li> <li>• Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server and Microsoft Windows Small Business Server 2000)</li> <li>• NetWare 6.5 (Support Pack 1 or later, and hot fixes)</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Windows Server 2003 family (includes Web, Standard, Enterprise, and x64 Editions) (SP1)</li> <li>• Microsoft Windows Small Business Server 2003 (SP1)</li> <li>• Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server and Microsoft Windows Small Business Server 2000)</li> <li>• NetWare is not supported for this release</li> </ul>

**Table 4-1. Compatible Dell Systems and Applications for Installation and Server Management CD Version 4.3 to 4.5. (continued)**

<b>Installation and Server Management CD Version</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.5.1<sup>a</sup></b>
	<ul style="list-style-type: none"> <li>• Red Hat® Enterprise Linux AS and ES (version 2.1)</li> <li>• Red Hat Enterprise Linux AS, ES, and WS (version 3)</li> </ul>	<ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux AS, ES, and WS (version 3) for Intel® Extended Memory 64 Technology (Intel EM64T) and Intel x86</li> <li>• Red Hat Enterprise Linux (version 4) for Intel EM64T and Intel x86</li> </ul>	<ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux AS, ES, and WS (version 3) for Intel Extended Memory 64 Technology (Intel EM64T) and Intel x86</li> <li>• Red Hat Enterprise Linux (version 4) for Intel EM64T and Intel x86</li> </ul>	<ul style="list-style-type: none"> <li>• Red Hat Enterprise Linux AS, ES, and WS (version 3) for Intel Extended Memory 64 Technology (Intel EM64T) and Intel x86</li> <li>• Red Hat Enterprise Linux (version 4) for Intel EM64T and Intel x86</li> </ul>
Server Administrator	2.0	2.1	2.2	2.3
Managed Node Framework (MNF)	2.0	2.1	2.2	2.3
Instrumentation Service: Server Agent	5.3	5.3	5.3	5.5.1
Diagnostic Service	3.2	3.3	3.4	3.4.1
Server Administrator Core	2.0	2.1	2.2	2.3
IT Assistant	7.0	7.0	7.1	7.1
Storage Management Service: Array Manager	3.7	3.7	3.7	3.7
Enhanced Storage Management Service	1.1	1.2	1.2	1.4
<b>RAC Firmware</b>				
DRAC 4	1.20	1.30	1.30	1.33
DRAC/MC	1.1	1.2	1.2	NA
DRACIII, ERA, ERA/O, ERA/XT	3.21	3.3	3.3	NA

**Table 4-1. Compatible Dell Systems and Applications for Installation and Server Management CD Version 4.3 to 4.5. (continued)**

<b>Installation and Server Management CD Version</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.5.1<sup>a</sup></b>
RAC firmware: DRAC II	NA <b>NOTE:</b> The DRAC II software is no longer included on the Systems Management Consoles CD, but can be obtained from earlier releases or <a href="http://support.dell.com">support.dell.com</a> .	NA	NA	NA
ERA/MC	1.44	NA	NA	NA
<b>Baseboard Management Controller (BMC) Firmware Version On</b>				
PowerEdge 800	1.30 or later	1.30 or later	1.30 or later	NA
PowerEdge 830	NA	NA	1.41 or later	NA
PowerEdge 850	NA	NA	1.41 or later	NA
PowerEdge 1425SC	1.30 or later	1.30 or later	1.30 or later	NA
PowerEdge 1800	1.23 or later	1.23 or later	1.23 or later	NA
PowerEdge 1850	1.23 or later	1.23 or later	1.23 or later	NA
PowerEdge 1855	1.0 or later	1.0 or later	1.0 or later	NA
PowerEdge 2800	1.23 or later	1.23 or later	1.23 or later	NA
PowerEdge 2850	1.23 or later	1.23 or later	1.23 or later	NA
PowerEdge 6800	1.33 or later	1.33 or later	1.33 or later	1.40 or later
PowerEdge 6850	1.33 or later	1.33 or later	1.33 or later	1.40 or later

<sup>a</sup> Introduced SAS support for Dell PowerEdge 6800 and 6850.

Table 4-2 shows compatible applications and Dell systems for *Systems Management CD* version 4.1.3 to 4.2.

**Table 4-2. Compatible Dell Systems and Applications for Systems Management CD Versions 4.1.3 to 4.2.**

<b>Systems Management CD Version</b>	<b>4.1.3</b>	<b>4.1.4</b>	<b>4.2</b>
PowerEdge systems (* Indicates new systems for the given version of the CD)	1855*	1855	350 500SC 600SC 650 700 750 800 1400 1500SC 1550 1600SC 1650 1655MC 1750 1800 1850 1855 2400 2450 2500 2550 2600 2650 2800 2850 4400 4600 6400 6450 6600 6650 8450 750N 755N 770N 775N

**Table 4-2. Compatible Dell Systems and Applications for Systems Management CD Versions 4.1.3 to 4.2. (continued)**

<b>Systems Management CD Version</b>	<b>4.1.3</b>	<b>4.1.4</b>	<b>4.2</b>
Supported operating systems	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003 (supported by PowerEdge 2800 only)	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003 (supported by PowerEdge 2800 only)	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003
	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server)	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server)	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 SBS)
	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes)	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes)	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes) <b>NOTE:</b> Novell NetWare is not supported on the PowerEdge 650 system.
	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes) <b>NOTE:</b> Novell NetWare is not supported on the PowerEdge 650 system.

**Table 4-2. Compatible Dell Systems and Applications for Systems Management CD Versions 4.1.3 to 4.2. (continued)**

<b>Systems Management CD Version</b>	<b>4.1.3</b>	<b>4.1.4</b>	<b>4.2</b>
	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)
Server Administrator	1.9.1	1.9.1	1.9.2
Managed Node Framework (MNF)	1.9	1.9	1.9
Instrumentation Service: Server Agent	5.2	5.2	5.2
Diagnostic Service	3.1.1	3.1.1	3.1
Update Service	1.9.2	NA	1.9.1
Server Administrator Core	See "MNF" in this table.	See "MNF" in this table.	See "MNF" in this table.
IT Assistant	6.5.3	6.5.3	6.5.3
Storage Management Service: Array Manager	NA	NA	3.6
Enhanced Storage Management Service	1.0	1.0.1	1.0
<b>RAC Firmware</b>			
DRAC 4	1.0	1.1	1.1
DRAC/MC	1.0	NA	NA
DRACIII, ERA, ERA/O, ERA/XT	NA	NA	3.21

**Table 4-2. Compatible Dell Systems and Applications for Systems Management CD Versions 4.1.3 to 4.2. (continued)**

<b>Systems Management CD Version</b>	<b>4.1.3</b>	<b>4.1.4</b>	<b>4.2</b>
RAC firmware: DRAC II	NA		NA <b>NOTE:</b> The DRAC II software is no longer included on the Systems Management CD, but can be obtained from earlier releases or <a href="http://support.dell.com">support.dell.com</a> .
ERA/MC	NA	NA	1.44
BMC Firmware Version	1.0	1.0.1	1.0.1

Table 4-3 shows compatible applications and Dell systems for *Systems Management CD* version 4.0.1 to 4.1.2.

**Table 4-3. Compatible Dell Systems and Applications for Systems Management CD Versions 4.0.1 to 4.1.2.**

<b>Systems Management CD Version</b>	<b>4.0.1</b>	<b>4.1</b>	<b>4.1.1</b>	<b>4.1.2</b>
PowerEdge systems (* Indicates new systems for the given version of the CD)	1850* 2800* 2850*	350 500SC 600SC 650 700 750 1400 1500SC 1550 1600SC 1650 1655MC 1750 1850 2400 2450 2500 2550 2600 2650 2800 2850 4400 4600 6400 6450 6600 6650 8450 750N 755N 770N 775N	1800*	800*

**Table 4-3. Compatible Dell Systems and Applications for Systems Management CD Versions 4.0.1 to 4.1.2. (continued)**

<b>Systems Management CD Version</b>	<b>4.0.1</b>	<b>4.1</b>	<b>4.1.1</b>	<b>4.1.2</b>
Supported operating systems	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003 (supported by PowerEdge 2800 only)	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003
	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server)	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 SBS)	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 SBS)	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 SBS)
	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes)	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes)	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes)	Novell NetWare 5.1 (Support Pack 7 or later, and hot fixes)
		<b>NOTE:</b> Novell NetWare is not supported on the PowerEdge 650 system.		

**Table 4-3. Compatible Dell Systems and Applications for Systems Management CD Versions 4.0.1 to 4.1.2. (continued)**

<b>Systems Management CD Version</b>	<b>4.0.1</b>	<b>4.1</b>	<b>4.1.1</b>	<b>4.1.2</b>
	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)	Novell NetWare 6.5 (Support Pack 1 or later, and hot fixes)
		<b>NOTE:</b> Novell NetWare is not supported on the PowerEdge 650 system.		
	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)	Red Hat Enterprise Linux AS and ES (version 2.1) and AS, ES, and WS (version 3)
Server Administrator	1.8.1	1.9	1.9	1.9
Managed Node Framework (MNF)	1.8.1	1.9	1.9	1.9
Instrumentation Service: Server Agent	5.1.1	5.2	5.2	5.2
Remote Access Service SW	4.0.0	3.30 (DRAC III) 4.0.0 (DRAC 4)	NA	NA
BMC Firmware Version	1.0	1.0.1	1.0.1	1.0.1
Diagnostic Service	3.0.1	3.1	3.1	3.1
Update Service	1.9	1.9.1	1.9.1	1.9.1
Server Administrator Core	See "MNF" in this table.			
IT Assistant	6.5.2	6.5.3	6.5.3	6.5.3
Storage Management Service: Array Manager	3.5	3.6	3.6	3.6
Enhanced Storage Management Service	NA	1.0	1.0	1.0

**Table 4-3. Compatible Dell Systems and Applications for Systems Management CD Versions 4.0.1 to 4.1.2. (continued)**

<b>Systems Management CD Version</b>	<b>4.0.1</b>	<b>4.1</b>	<b>4.1.1</b>	<b>4.1.2</b>
<b>RAC Firmware</b>				
DRAC 4	1.0	1.0	NA	NA
RAC firmware: DRAC II	NA	NA	NA	NA
		<b>NOTE:</b> The DRAC II software is no longer included on the Systems Management CD, but can be obtained from earlier releases or <a href="http://support.dell.com">support.dell.com</a> .		
RAC firmware: DRAC III	NA	3.12	NA	NA
RAC firmware: DRAC III/XT	NA	3.12	NA	NA
RAC firmware: ERA	NA	3.12	NA	NA
RAC firmware: ERA/O	NA	3.12	NA	NA

**Table 4-4. Compatible Dell Systems and Applications for Systems Management CD Versions 3.5 Through 3.8**

<b>Systems Management CD Version</b>	<b>3.5</b>	<b>3.6</b>	<b>3.7</b>	<b>3.8</b>
PowerEdge systems	350	350	350	350
(* Indicates new systems for the given version of the CD)	500SC	500SC	500SC	500SC
	600SC	600SC	600SC	600SC
	650	650	650	650
	1400	1400	1400	700*
	1500SC	1500SC	1500SC	750*
	1550	1550	1550	1400
	1600SC	1600SC	1600SC	1500SC
	1650	1650	1650	1550
	1655MC	1655MC	1655MC	1600SC
	1750	1750	1750	1650
	2400	2400	2400	1655MC
	2450	2450	2450	1750
	2500	2500	2500	2400
	2550	2550	2550	2450
	2600	2600	2600	2500
	2650	2650	2650	2550
	4400	4400	4400	2600
	4600	4600	4600	2650
	6400	6400	6400	4400
	6450	6450	6450	4600
	6600	6600	6600	6400
	6650	6650	6650	6450
	8450	8450	8450	6600
				6650
				8450

**Table 4-4. Compatible Dell Systems and Applications for Systems Management CD Versions 3.5 Through 3.8 (continued)**

<b>Systems Management CD Version</b>	<b>3.5</b>	<b>3.6</b>	<b>3.7</b>	<b>3.8</b>
Supported operating systems	Microsoft Windows Server 2003	Windows Server 2003 family	Windows Server 2003 family	Windows Server 2003 family (includes Web, Standard, and Enterprise editions) and Microsoft Windows Small Business Server [SBS] 2003
	Windows 2000 Server family (SP3 recommended)	Windows 2000 Server family (SP3 recommended)	Windows 2000 Server family (SP3 recommended)	Windows 2000 Server family (includes Windows 2000 Server, Windows 2000 Advanced Server, and Windows 2000 SBS)
	Novell NetWare 5.1 (SP4 or later)	NetWare 5.1 (SP5 or later)	Novell NetWare 5.1 (Support Pack 6 or later)	Novell NetWare 5.1 (Support Pack 6 or later)
	NetWare 6.0 (SP1 or later)	NetWare 6.5	Novell NetWare 6.5 (Support Pack 1 or later)	Novell NetWare 6.5 (Support Pack 1 or later)
	Red Hat Linux Advanced Server 2.1	Red Hat Enterprise Linux AS (version 2.1)	Red Hat Enterprise Linux AS and ES (version 2.1 and 3), and WS (version 3)	Red Hat Enterprise Linux AS (version 2.1) and AS, ES, and WS (version 3)
	Red Hat Linux 9	Red Hat Linux 9	Red Hat Linux 9	NA
Server Administrator	1.5	1.6	1.7	1.8
Managed Node Framework (MNF)	1.5	1.6	1.7	1.8
Instrumentation Service: Server Agent	4.10.0	4.11	4.12	5.1
Diagnostic Service	2.5	2.6	2.7	3.0

**Table 4-4. Compatible Dell Systems and Applications for Systems Management CD Versions 3.5 Through 3.8 (continued)**

<b>Systems Management CD Version</b>	<b>3.5</b>	<b>3.6</b>	<b>3.7</b>	<b>3.8</b>
Update Service	1.6	1.7	1.8	1.9
Server Administrator Core	See "MNF" in this table.			
IT Assistant	6.4.4	6.5	6.5	6.5
Storage Management Service: Array Manager	3.4	3.5	3.5	3.5
<b>RAC Firmware</b>				
Remote Access Service (RAS)	2.5	3.0	3.10	3.20
RAC firmware: DRAC II	2.5	2.5	2.5	2.5
RAC firmware: DRAC III	2.5	3.0	3.10	3.10
RAC firmware: DRAC III/XT	2.5	3.0	3.10	3.10
RAC firmware: ERA	2.5	3.0	3.10	3.10
RAC firmware: ERA/O	2.5	3.0	3.10	3.10

Table 4-5 shows compatible applications and Dell systems for *Systems Management* CD versions 3.2.3 through 3.4.

**Table 4-5. Compatible Dell Systems and Applications for Systems Management CD Versions 3.2.3 Through 3.4**

<b>Systems Management CD Version</b>	<b>3.2.3</b>	<b>3.3</b>	<b>3.3.3</b>	<b>3.4</b>
PowerEdge systems	300	300	300	300
(* Indicates new systems for the given version of the CD)	350	350	350	350
	500SC	500SC	500SC	500SC
	600SC	600SC	600SC	600SC
	1300	1300	650*	650
	1400	1400	1300	1300
	1500SC	1500SC	1400	1400
	1550	1550	1500SC	1500SC
	1600SC	1600SC	1550	1550
	1650	1650	1600SC	1600SC
	1655MC*	2300	1650	1650
	2300	2400	1655MC	1655MC
	2400	2450	1750*	1750
	2450	2500	2300	2300
	2500	2550	2400	2400
	2550	2600	2450	2450
	2600	2650	2500	2500
	2650	4300	2550	2550
	4300	4350	2600	2600
	4350	4400	2650	2650
	4400	4600	4300	4300
	4600	6300	4350	4350
	6300	6350	4400	4400
	6350	6400	4600	4600
	6400	6450	6300	6300
	6450	6600	6350	6350
	6600	6650	6400	6400
	6650	8450	6450	6450
	8450		6600	6600
			6650	6650
			8450	8450

**Table 4-5. Compatible Dell Systems and Applications for Systems Management CD Versions 3.2.3 Through 3.4 (continued)**

<b>Systems Management CD Version</b>	<b>3.2.3</b>	<b>3.3</b>	<b>3.3.3</b>	<b>3.4</b>
Supported operating systems	Microsoft Windows 2000 Server Family (SP3 recommended)  NetWare 5.1 (SP2 or later)  NetWare 6.0 (SP1 or later)  Red Hat Enterprise Linux Advanced Server 2.1  Red Hat Linux 7.3 (with the 2.4.18-4smp kernel)	Microsoft Windows NT 4.0 Server family (SP6a or later)  Windows 2000 Server family (SP3 recommended)  NetWare 5.1 (SP2 or later)  NetWare 6.0 (SP1 or later)  Linux Advanced Server 2.1  Linux 7.3 (with the 2.4.18-4smp kernel)  Linux 8.0 (with the 2.4.18-14smp kernel)	Windows NT 4.0 Server family (SP6a or later)  Windows 2000 Server family (SP3 recommended)  NetWare 5.1 (SP2 or later)  NetWare 6.0 (SP1 or later)  Linux Advanced Server 2.1  Linux 7.3 (with the 2.4.18-4smp kernel)  Linux 8.0 (with the 2.4.18-14smp kernel)	Windows Server 2003  Windows 2000 Server family (SP3 recommended)  NetWare 5.1 (SP2 or later)  NetWare 6.0 (SP1 or later)  Linux Advanced Server 2.1  Linux 8.0 and Linux 9
Server Administrator	1.2.3	1.3	1.3.4	1.4
Managed Node Framework (MNF)	1.2.3	1.3	1.3	1.4
Instrumentation Service: Server Agent	4.7.2	4.8	4.8.1	4.9
Remote Access Service (RAS)	1.3.1	2.0	2.1	2.2
RAC firmware: DRAC II	2.5	2.5	2.5	2.5
RAC firmware: DRAC III	1.3	2.0	2.0	2.2
RAC firmware: DRAC III/XT	NA	2.0	2.0	2.2
RAC firmware: ERA	1.2	2.0	2.1	2.2

**Table 4-5. Compatible Dell Systems and Applications for Systems Management CD Versions 3.2.3 Through 3.4 (continued)**

<b>Systems Management CD Version</b>	<b>3.2.3</b>	<b>3.3</b>	<b>3.3.3</b>	<b>3.4</b>
RAC firmware: ERA/O	1.2	2.0	2.0	2.2
Diagnostic Service	2.2.1	2.3	2.3.1	2.4
Update Service	1.3	1.4	1.4.3	1.5
Server Administrator Core	See "MNF" in this table.			
IT Assistant	6.4.2	6.4.3	6.4.3	6.4.4
Storage Management Service: Array Manager	3.3	3.3	3.4	3.4

Table 4-6 shows supported elements for *Systems Management CD* versions 3.0 through 3.2.2.

**Table 4-6. Compatible Dell Systems and Applications for Systems Management CD Versions 3.0 Through 3.2.2**

<b>Systems Management CD Version</b>	<b>3.0</b>	<b>3.0.1</b>	<b>3.0.2</b>	<b>3.1</b>	<b>3.2</b>	<b>3.2.2</b>
PowerEdge systems	300	300	300	300	300	300
(* Indicates new systems for the given version of the CD)	350	350	350	350	350	350
	500SC	500SC	500SC	500SC	500SC	500SC
	1300	1300	1300	1300	600SC*	600SC
	1400	1400	1400	1400	1300	1300
	1500SC	1500SC	1500SC	1500SC	1400	1400
	1550	1550	1550	1550	1500SC	1500SC
	2300	1650*	1650	1650	1550	1550
	2400	2300	2300	2300	1650	1600SC*
	2450	2400	2400	2400	2300	1650
	2500	2450	2450	2450	2400	2300
	2550	2500	2500	2500	2450	2400
	4300	2550	2550	2550	2500	2450
	4350	4300	2650*	2650	2550	2500
	4400	4350	4300	4300	2600*	2550
	6300	4400	4350	4350	2650	2600
	6350	4600*	4400	4400	4300	2650
	6400	6300	4600	4600	4350	4300
	6450	6350	6300	6300	4400	4350
	8450	6400	6350	6350	4600	4400
		6450	6400	6400	6300	4600
		8450	6450	6450	6350	6300
			6600*	6600	6400	6350
			6650*	6650	6450	6400
			8450	8450	6600	6450
					6650	6600
					8450	6650
						8450

**Table 4-6. Compatible Dell Systems and Applications for Systems Management CD Versions 3.0 Through 3.2.2 (continued)**

<b>Systems Management CD Version</b>	<b>3.0</b>	<b>3.0.1</b>	<b>3.0.2</b>	<b>3.1</b>	<b>3.2</b>	<b>3.2.2</b>
Supported operating systems	Windows NT 4.0 with SP4	Windows NT 4.0 Server family (SP6a or later)	Windows NT 4.0 Server family (SP6a or later)	Windows NT 4.0 Server family (SP6a or later)	Windows NT 4.0 Server family (SP6a or later)	Windows NT 4.0 Server family (SP6a or later)
	Windows 2000 Server family	Windows 2000 Server family (hot fixes rec. for SNMP)	Windows 2000 Server family (hot fixes rec. for SNMP)	Windows 2000 Server family (hot fixes rec. for SNMP)	Windows 2000 Server family (SP3 rec.)	Windows 2000 Server family (SP3 rec.)
	Novell NetWare 4.x, 5.x, or 6.x	NetWare 5.1 (SP2 or later)	NetWare 5.1 (SP2 or later)			
	Linux 7.1	NetWare 6.0 (SP1 or later)	NetWare 6.0 (SP1 or later)			
	Linux Advanced Server 2.1	Linux 7.1 (with latest ucd-snmp package)	Linux 7.1 (with latest ucd-snmp package)	Linux 7.1 (with latest ucd-snmp package)	Linux Advanced Server 2.1 Linux 7.3 (with the 2.4.18-4smp kernel)	Linux Advanced Server 2.1 Linux 7.3 (with the 2.4.18-4smp kernel)
Server Administrator	1.0	1.0.1	1.0.2	1.1	1.2	1.2.2
Managed Node Framework	NA	NA	NA	NA	1.2	1.2.2
Instrumentation Service: Server Agent	4.5.1	4.5.1 4.5.2	4.5.1 4.5.2	4.6	NA	1.2.1
Remote Access Service (RAS)	NA	NA	NA	NA	4.7	4.7.1
RAC firmware: DRAC II	2.4.1	2.4.1	2.5	2.5	NA	1.3

**Table 4-6. Compatible Dell Systems and Applications for Systems Management CD Versions 3.0 Through 3.2.2 (continued)**

<b>Systems Management CD Version</b>	<b>3.0</b>	<b>3.0.1</b>	<b>3.0.2</b>	<b>3.1</b>	<b>3.2</b>	<b>3.2.2</b>
RAC firmware: DRAC III	NA	1.1	1.1	1.2	2.5	2.5
RAC firmware: DRAC III/XT	NA	NA	NA	NA	1.3	1.3
RAC firmware: ERA	NA	NA	1.05	1.05	NA	1.0
RAC firmware: ERA/O	NA	NA	NA	1.1	1.07	1.2
Diagnostic Service	2.0	2.0.1	2.0.2	2.1	1.2	1.2
Update Service	1.1	1.1	1.1	1.2	1.2	1.2.1
Server Administrator Core	NA	NA	NA	1.10	1.3	1.3
IT Assistant	6.2	6.2	6.2	6.3	1.2	See "MNF" in this table.
Storage Management Service: Array Manager	3.1.1	3.1.2	3.1.2	3.1.3	3.2	3.3

## Device Drivers and Red Hat Enterprise Linux Kernel Support



**NOTE:** The "Supported Operating Systems" section of Table 4-5 and Table 4-6 includes Red Hat Enterprise Linux kernel versions. Updated or later versions of Red Hat Enterprise Linux may require the use of dynamic kernel support (see "Installing Server Administrator" in the *Server Administrator User's Guide* for an explanation of this feature).

The Instrumentation Service provides device drivers for the precompiled kernels listed in Table 4-5 and Table 4-6. When the Instrumentation Service detects that none of its pre-built device drivers supports the running kernel, it attempts to build a device driver for that kernel. This feature of Server Administrator is called dynamic kernel support. Server Administrator's dynamic kernel support builds a device driver when needed during the Instrumentation Service installation or start-up.

## Server Agent Supported Applications and Systems

This section provides information on instrumentation, applications, and systems that are supported by *Dell OpenManage™ Applications* CD versions 2.0 through 2.2. The Dell OpenManage Server Agent was supported concurrently with the Hardware Instrumentation Package (HIP) by *Applications* CD versions 1.3 through 1.7.

For more information about applications and systems supported by HIP, see "Hardware Instrumentation Package Supported Applications and Systems."

For more information about Server Administrator supported applications and systems, see "Server Administrator Supported Applications and Systems."

 **NOTE:** The *Applications* CD version 2.0.1 and later does not fully support the following Dell™ PowerEdge™ systems: 1300, 2100, 2200, 2300, 4100, 4200, 4300, 4350, 6100, 6300, and 6350.

Table 5-1 shows compatible applications and PowerEdge systems for each *Applications* CD, versions 2.0 through 2.2.

**Table 5-1. Server Agent Versions, Applications, and Dell Systems**

<b>Applications CD Version</b>	<b>2.0</b>	<b>2.0.1</b>	<b>2.0.2</b>	<b>2.1</b>	<b>2.2</b>
PowerEdge systems	300	300SC	350	300	300
(* Indicates new systems for the given version of the CD)	350	350	500SC*	350	350
	1300	1400SC	1550	500SC	500SC
	1400	1550		1300	1300
	1550	2400		1400	1400
	2300	2450		1550	1500SC*
	2400	2500		2300	1550
	2450	2500SC		2400	2300
	2500*	2550		2450	2400
	2550*	4400		2500	2450
	4300	6400		2550	2500
	4350	6450		4300	2550
	4400	8450		4350	4300
	6300			4400	4350
	6350			6300	4400
	6400			6350	6300
	6450			6400	6350
	8450			6450	6400
				8450	6450
					8450
Supported operating systems	Microsoft® Windows NT® 4.0 with SP4 or later	Windows NT 4.0 with SP4 or later	Windows NT 4.0 with SP4 or later	Windows NT 4.0 with SP 4 or later	Windows NT 4.0 with SP4 or later
	Windows® 2000 Server family	Windows 2000 Server family	Windows 2000 Server family	Windows 2000 Server family	Windows 2000 Server family
	Novell® NetWare® 4.x or 5.x	NetWare 4.x or 5.x	NetWare 4.x or 5.x	NetWare 4.x or 5.x	NetWare 4.x or 5.x
	Red Hat® Linux 7.0 (kernel version: 2.2.16)	Linux 7.0 (kernel version: 2.2.16)	Linux 7.0 (kernel version: 2.2.16)	Linux 7.0	Linux 7.0
Instrumentation Service: Server Agent	4.3	4.3	4.4	4.4.1	4.5
Remote Access Service: DRAC II	2.3.2	2.3.3	2.3.3	2.4	2.4
Remote Access Service: DRAC III	NA	NA	NA	NA	NA

**Table 5-1. Server Agent Versions, Applications, and Dell Systems (continued)**

<b>Applications CD Version</b>	<b>2.0</b>	<b>2.0.1</b>	<b>2.0.2</b>	<b>2.1</b>	<b>2.2</b>
Online Diagnostics	1.1	1.1	1.1	1.1.1	1.1.2
IT Assistant	6.0	6.0	6.0	6.0	6.0
Storage Management Service: Array Manager	2.7	3.0	3.0	3.0	3.1



## Hardware Instrumentation Package Supported Applications and Systems

This section provides information about instrumentation, applications, and systems that are supported by the *Dell OpenManage™ Applications CD* versions 1.1 through 1.7. Both Dell OpenManage Hardware Instrumentation Package (HIP) and the Dell OpenManage Server Agent are supported by the *Applications CD* versions 1.3 through 1.7.

For more information about applications and systems supported by Server Agent, see "Server Agent Supported Applications and Systems."

Table 6-1 shows compatible applications and Dell™ PowerEdge™ systems for the *Applications CD* versions 1.1 through 1.7.

**Table 6-1. HIP Versions, Applications, and Dell PowerEdge Systems**

<b>Applications CD Version</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>
PowerEdge systems	1300	1300	1300	1300	1300	300*	300
(* Indicates new systems for the given version of the CD)	2100	2100	2100	2100	1400*	1300	350*
	2200	2200	2200	2200	2100	1400	1300
	2300	2300	2300	2300	2200	1550*	1400
	2400	2400	2400	2400	2300	2300	1550
	2450	2450	2450	2450	2400	2400	2300
	4100	4100	4100	4100	2450	2450	2400
	4200	4200	4200	4200	4100	4300	2450
	4300	4300	4300	4300	4200	4350	4300
	4350	4350	4350	4350	4300	4400	4350
	4400	4400	4400	4400	4350	6300	4400
	6100	6100	6100	6100	4400	6350	6300
	6300	6300	6300	6300	6100	6400	6350
	6350	6350	6350	6350	6300	6450	6400
	6400	6400	6400	6400	6350	8450	6450
	6450	6450	6450	6450	6400		8450
	8450	8450	8450	8450	6450		
					8450		

**Table 6-1. HIP Versions, Applications, and Dell PowerEdge Systems (continued)**

<b>Applications CD Version</b>	<b>1.1</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.7</b>
Supported operating systems	Microsoft® Windows NT® 4.0 with SP3 or later	Windows NT 4.0 with SP3 or later	Windows NT 4.0 with SP4 or later				
			Windows® 2000 Server family	Windows 2000 Server family	Windows 2000 Server family	Windows 2000 Server family	Windows 2000 Server family
	Novell® NetWare® 4.11 with SP5 or later	NetWare 4.11 with SP5 or later					
	NetWare 5.0	NetWare 5.0	NetWare 4.x or 5.x				
Instrumentation Service: HIP	3.5.2	3.5.2	3.5.2	3.5.2	3.5.2	3.5.2	3.5.2
Instrumentation Service: Server Agent	NA	NA	4.0	4.0	4.0	4.2.1	4.2.2
Remote Access Service: DRAC II	2.2.1	2.2.1	2.3	2.3	2.3	2.3.1	2.3.1
Online Diagnostics	NA	NA	NA	NA	NA	NA	1.0
IT Assistant	5.1	5.1	5.1	5.2	6.0	6.0	6.0
Storage Management Service: Array Manager	1.5	1.5	2.0	2.0	2.5	2.5	2.7

# BIOS Update Requirements

## Overview

 **NOTE:** Starting with Dell OpenManage version 4.3, the *Systems Management* CD has been replaced by the *Dell™ PowerEdge™ Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

Prior to Dell OpenManage 4.3, Server Administrator Update Service provided the ability to update system BIOS remotely from within the Server Administrator GUI. The Update Service also provided interfaces for updating many firmware and driver packages. The remote BIOS update capability did not require that you be logged in directly to the system whose BIOS you were updating. If the target system had the minimum required BIOS version installed, you could update the BIOS to the latest version *remotely*. The purpose of this section is to help you to identify the minimum prerequisite BIOS version to update to the latest available BIOS for each supported Dell PowerEdge system. You can use this method of BIOS update only if you are running Dell OpenManage *Systems Management* CD version 4.2 or earlier.

## Minimum Requirements for BIOS Update Support

This section lists the minimum BIOS requirements for upgrading to the latest BIOS version available for each Dell PowerEdge system supported by Server Administrator. You can download the latest BIOS versions from the Dell Support website at [support.dell.com](http://support.dell.com).

 **NOTE:** This guide is updated only once per business quarter. To ensure that you have the latest BIOS version available, always download the latest BIOS versions from the Dell Support website at [support.dell.com](http://support.dell.com).

To locate the BIOS update files that you want, perform the steps in the following subsections.

### Downloading the Latest BIOS Packages

- 1 Go to the Dell Support website at [support.dell.com](http://support.dell.com).
- 2 Register to login if you have not logged in before.
- 3 Click **log in**.
- 4 Specify your system either by entering your Service Tag or by selecting the product model. Click **Go**.
- 5 Under **File Library**, select **Downloads**.
- 6 Under **Select Your Download Category**, select **Flash BIOS Updates**.

- 7 Under **Select an Operating System**, select **Not Applicable**.
- 8 Under **Select an Operating System Language**, select **English**.
- 9 Click **Submit**.

The download page for your system’s FlashBIOS appears.

- 10 Under **Select a Device**, select the device you want to update.
- 11 Continue to select the BIOS device until you reach the page where you select the format for the FlashBIOS file you want to download.

Select a format that fits your intended installation method: floppy disk or operating system format.

- 12 Select download by **HTTP** or **FTP**.

 **NOTE:** It is strongly recommended that you print out and follow the detailed installation instructions for your BIOS provided on this Web page.

The Export Compliance Disclaimer appears.

- 13 Click **I agree** to continue.

The **File Download** window appears.

- 14 Specify where you want to save your FlashBIOS file and click **OK**.

A download complete popup appears.

- 15 Follow the installation instructions (appropriate for your file format) that appear on the **Download and Install** page.

## Minimum Required and Latest Available BIOS for Update by System

Table 7-1 lists the minimum version of the BIOS that must be installed on each system for the latest flash BIOS package to be applied by remote update. See the Dell support site at [support.dell.com](http://support.dell.com) for the latest BIOS information.

**Table 7-1. PowerEdge Systems and Minimum BIOS Versions Required for Remote Flash Update**

PowerEdge System	Minimum BIOS Required for Remote Flash Update
300	A00
350	BIOS update is not supported for PowerEdge 350 systems.
500SC	A05
600SC	A00
650	A01
700	A00

**Table 7-1. PowerEdge Systems and Minimum BIOS Versions Required for Remote Flash Update (continued)**

<b>PowerEdge System</b>	<b>Minimum BIOS Required for Remote Flash Update</b>
750	A00
1300	A04
1400/1400SC	A00
1500SC	A04
1550	A01
1600SC	A00
1650	A05
1655MC	A00
1750	A05
2300	A09
2400	A01
2450	A02
2500/2500SC	A00
2550	A06
2600	A01
2650	A00
4300	A06
4350	A03
4400	A04
4600	A00
6300	A08
6350	A08
6400	A01
6450	A01
6600	A08
6650	A08
8450	A06



# RAID Controller Supported Servers, Operating Systems, Firmware, and Driver Versions

## Overview

In Dell OpenManage™ version 4.1 and later, Dell OpenManage Server Administrator offers two storage products. The Array Manager (also called basic Storage Management Service) that has been a part of Server Administrator still allows you to view your attached storage devices from within Server Administrator. The enhanced Storage Management Service allows you to configure and manage your storage devices from within Server Administrator.

 **NOTE:** Starting with Dell OpenManage version 4.3, the *Systems Management* CD has been replaced by the *Dell™ PowerEdge™ Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

Most versions of the *Systems Management* CD support management of RAID controllers in the form of PERC cards, and some systems management releases also support CERC IDE and SATA controllers. Systems administrators responsible for monitoring the compatibility of their systems' storage devices with their latest installed operating system or *Dell PowerEdge Installation and Server Management* CD (or *Systems Management* CD) need a clear matrix that shows the elements that are compatible with a particular storage controller. Each storage controller version in turn supports a specific array of elements, including:

- Version of the Storage Management Service
- Dell PowerEdge system
- Firmware version number required for a particular controller
- Supported operating systems, where each operating system requires a specific driver

Releases 1.9 and later of Server Administrator provide two versions of the Storage Management Service: basic Storage Management Service and enhanced Storage Management Service.

The basic Storage Management Service or Array Manager is available from the Server Administrator GUI.

 **NOTE:** The basic Storage Management Service is not available on systems running Red Hat® Enterprise Linux operating systems.

 **NOTE:** The Red Hat Enterprise Linux operating system provides drivers for some of the RAID controllers listed in this section. However, when the basic Storage Management Service is installed on a Red Hat Enterprise Linux operating system, the Linux drivers do not report data to the Storage Management Service.

See the *Dell OpenManage Server Administrator User's Guide* for more information on basic and enhanced Storage Management Services.

Four types of controllers are included in this section:

- The RAID controller card group contains the following controllers: PERC 2, PERC 2/SC, PERC 2/DC, PERC 3/SC, PERC 3/DC, PERC 3/DCL, PERC 3/QC, PERC 4/SC, PERC 4/DC, PERC 4e/DC, PERC 5/e, CERC ATA 100/4 Channel, CERC SATA 4/2s, and CERC SATA 1.5/6 Channel.
- The RAID on motherboard (ROMB) group includes the following controllers: PERC 2/Si, PERC 3/Si, PERC 3/Di, PERC 4/Di, PERC 4e/Di, PERC 4e/Si, and CERC SATA 1.5/2S.
- The internal mirroring group, provided through the system BIOS, includes the PERC 4/IM controller.
- The LSI 1020/1030 embedded SCSI controller.



**NOTE:** The firmware and drivers listed in this section refer to the minimum supported version as of the publication date of this document. Later versions of the firmware and drivers may also be supported or required. For the most recent driver and firmware requirements, see the Dell support website at [support.dell.com](http://support.dell.com) or to the `readme.txt` file for either the basic (Array Manager) or enhanced Storage Management Service.

## Version of Storage Management Service in RAID Controller Tables

The left column in each RAID controller table is labeled either Array Manager or enhanced Storage Management Service. Versions 2.7 to 3.7 are for Array Manager (also called basic Storage Management Service). Versions 1.1 and 1.2 are for the enhanced Storage Management Service.



**NOTE:** See the *Dell OpenManage Server Administrator Storage Management readme* for the most current information on the RAID controllers.

## Key to Table Footnotes

Some drivers in the following tables are marked with either one or two asterisks. You can refer to the following paragraphs for more information:

### Operating System and Driver Discrepancies\*

Some drivers display as one driver number in Array Manager and another driver number in Microsoft® Windows Server™ 2000 and 2003. The Array Manager standalone install and the Server Administrator silent install require driver version 2.8.0.6076 or higher. The Array Manager Utilities display this driver as 2.8.0.6076. The Device Manager for Microsoft Windows® 2000 and Microsoft Windows Server 2003, however, display driver version 2.8.0.6076 as 2.8.0.6085.

### Linux Driver Included in RPM \*\*

The 1.1.4 Linux driver is included in RPM 2302 (Red Hat Package Manager 2302).

## PERC 2/SC

The PERC 2/SC supports the following PowerEdge systems: 2300, 4300, 4350, 6300, 6350, 6400, and 8450. When installed on a PowerEdge 8450 system running Array Manager 3.1.2 or 3.1.3, the PERC 2/SC requires drivers that differ from the other supported systems.

 **NOTE:** The PERC 2/SC does not support Novell® NetWare® on PowerEdge x300 systems.

Table 8-1 and Table 8-2 show the other elements supported by the PERC 2/SC.

**Table 8-1. Array Manager Supported Elements: PERC 2/SC**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT® 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	3.13	2.32	2.62	NA	2.06	NA	NA
3.0.1	3.13	4.07	2.62	NA	3.08-j	NA	NA
3.1.1	3.13	4.11	2.62	NA	3.11-a	NA	NA
3.1.1 (for PowerEdge 8450)	3.13	4.11	2.68	NA	3.12	NA	NA
3.1.3	3.13	2.32	2.68	NA	2.06	NA	NA
3.1.3 (for PowerEdge 8450)	3.13	4.11	2.68	NA	3.12	NA	NA
3.2	3.13	2.32	2.68	NA	2.06	2.06	Native
3.2 (for PowerEdge 8450)	3.13	4.15	2.68	NA	3.12	6.01r	Native
3.3	3.13	2.32	2.68	NA	2.06	2.06	Native
3.3 (for PowerEdge 8450)	3.13	4.17.2	2.68	NA	3.12	6.02a	6.02a
3.4	3.13	2.32	2.68	6.32.2.32	NA	2.06	6.02
3.4 (for PowerEdge 8450)	3.13	4.18	2.68	6.32.2.32	NA	7.01n	Native
3.5	3.13	2.32	2.68	6.41.2.32	NA	2.06	6.02
3.5 (for PowerEdge 8450)	3.13	4.21	2.68	6.41.2.32	NA	6.02	6.02
3.6	3.13	2.32	2.68	6.41.2.32	NA	2.06	6.02
3.6 (for PowerEdge 8450)	3.13	4.21	2.68	6.41.2.32	NA	6.02	6.02

**Table 8-1. Array Manager Supported Elements: PERC 2/SC (continued)**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT® 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
3.7	3.13	NA	2.68	6.35.2.32	NA	<b>NOTE:</b> NetWare is not supported on PowerEdge x300 systems with a PERC 2/SC.	
3.7 (for PowerEdge 8450)	3.13	NA	2.68	6.35.2.32	NA	(Native)	(Native)

**Table 8-2. enhanced Storage Management Service Supported Elements: PERC 2/SC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	3.13	2.68	6.35.2.32	1.18	NA	NA
1.2	3.13	2.68	6.35.2.32	1.18	NA	NA

## PERC 2/DC

The PERC 2/DC supports the following PowerEdge systems: 2400, 2450, 4300, 4400, 6300, 6400, 6450, and 8450.

Table 8-3 and Table 8-4 show the other elements supported by the PERC 2/DC.

**Table 8-3. Array Manager Supported Elements: PERC 2/DC Supported Elements**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	1.01	2.32	2.68	Ns	2.06	2.06	NA
3.0	1.04	4.07	2.68	NA	3.08-j	3.08-j	NA
3.0.1	1.04	4.07	2.68	NA	3.08-j	3.08-j	NA
3.1	1.04	4.11	2.68	NA	3.11-a	3.11-a	NA
3.1.1	1.04	4.11	2.68	NA	3.11-a	3.11-a	NA
3.1.2 (for PowerEdge x300)	1.06	2.32	2.68	NA	2.06	2.06	6.01e

**Table 8-3. Array Manager Supported Elements: PERC 2/DC Supported Elements (continued)**

<b>Array Manager Version</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 4.2 Driver</b>	<b>NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.1.2 (for PowerEdge x400)	1.06	4.15	2.68	NA	3.12	3.12	6.01e
3.1.3 (for PowerEdge x300)	1.06	2.32	2.68	NA	2.06	2.06	6.01e
3.1.3 (for PowerEdge x400)	1.06	4.11	2.68	NA	3.12	3.12	6.01e
3.2 (for PowerEdge x300)	1.06	2.32	2.68	NA	2.06	2.06	NA
3.2 (for PowerEdge x400)	1.06	4.15	2.68	NA	3.12	6.01r	6.01r
3.3 (for PowerEdge x300)	1.06	2.32	2.68	NA	2.06	2.06	NA
3.3 (for PowerEdge x400)	1.06	4.17.2	2.68	NA	3.12	6.02a	6.02a
3.4 (for PowerEdge x300)	1.06	2.32	2.68	6.32.2.32	NA	2.06	NA
3.4 (for PowerEdge x400)	1.06	4.18	2.68	6.32.2.32	NA	7.01n	Native
3.5 (for PowerEdge x300)	1.06	2.32	2.68	6.41.2.32	NA	2.06	NA
3.5 (for PowerEdge x400)	1.06	4.21	2.68	6.41.2.32	NA	6.02	6.02
3.6	1.06	2.32	2.68	6.41.2.32	NA	2.06	6.02
3.6 (for PowerEdge 8450)	1.06	4.21	2.68	6.41.2.32	NA	6.02	6.02
3.7 (for PowerEdge x300)	1.06	NA	2.68	6.35.2.32	NA	2.06	NA
3.7 (for PowerEdge x400)	1.06	NA	2.68	6.35.2.32	NA	Native	Native

**Table 8-4. enhanced Storage Management Service Supported Elements: PERC 2/DC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	1.06	2.68	6.35.2.32	1.18	NA	NA
1.2	1.06	2.68	6.35.2.32	1.18	NA	NA

## PERC 4/DC

The PERC 4/DC supports the following PowerEdge systems: 650, 800, 830, 850, 1650, 1750, 1800, 1850, 2500, 2550, 2600, 2650, 2800, 2850, 4600, 6400, 6450, 6600, 6650, 6800, 6850, and 8450.

Table 8-5 and Table 8-6 show the other elements supported by the PERC 4/DC.

**Table 8-5. Array Manager Supported Elements: PERC 4/DC**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x and 6.0 Driver	NetWare 6.5 Driver
3.4	3.28	4.21	5.42	6.35.2.32	NA	7.01q	7.01q
3.5	3.41	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.6	3500	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.7	3500 (Required) 351Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (Required) 6.46.2.32 (Recommended)	NA	7.02c	7.02c

**Table 8-6. enhanced Storage Management Service Supported Elements: PERC 4/DC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	3500	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	351Q	5.48	6.46.2.32 (32-bit) 6.46.3.64 (64-bit)	NA	2.10.7	2.20.4.4

**Table 8-6. enhanced Storage Management Service Supported Elements: PERC 4/DC (continued)**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.4	3.51R	5.48	6.46.2.32 (32-bit) 6.46.3.64 (64-bit)	NA	2.10.7	2.20.4.4

## PERC 4e/DC

The PERC 4e/DC supports the PowerEdge 1800, 1850, 2800, and 2850.

Table 8-7 and Table 8-8 show the other elements supported by the PERC 4e/DC.

**Table 8-7. Array Manager Supported Elements: PERC 4/e DC**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
3.7	513T (Required) 521Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (Required) 6.46.2.32 (Recommended)	NA	7.02c	7.02c

**Table 8-8. enhanced Storage Management Service Supported Elements: PERC 4/e DC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	513T	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	521Q	5.48	6.46.2.32 (32-bit) 6.46.3.64 (64-bit)	NA	2.10.7	2.20.4.4

## PERC 3/SC

The PERC 3/SC supports the PowerEdge 1400SC and 1500SC.

Table 8-9 and Table 8-10 show the other elements supported by the PERC 3/SC.

**Table 8-9. Array Manager Supported Elements: PERC 3/SC**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
3.1	1.63	4.11	5.22.1	NA	3.12	3.12	NA
3.1.1	1.63	4.11	5.22.1	NA	3.12	3.12	NA
3.1.2	1.63	4.11	5.22.1	NA	3.12	3.12	NA
3.2	1.72	4.15	5.32	NA	3.12	6.01r	6.01r
3.3	1.74	4.17.2	5.35.2	NA	3.12	6.02a	6.02a
3.4	1.79	4.18	5.39	6.32.2.32	NA	7.01n	7.01n
3.5	196T	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.6	1970	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.7	1970 (Required) 198Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (Required) 6.46.2.32 (Recommended)	NA	7.02c	7.02c

**Table 8-10. enhanced Storage Management Service Supported Elements: PERC 3/SC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	1970	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	198Q	5.48	6.46.2.32 (32-bit) 6.41.2.32 (64-bit)	2.10.7	2.10.7	2.20.4.4

## PERC 3/DC

The PERC 3/DC supports the following PowerEdge systems: 1650, 2400, 2450, 2500, 2550, 2600, 2650, 4400, 4600, 6400, 6600, 6650, 7150, and 8450.

Table 8-11 and Table 8-12 show the other elements supported by the PERC 3/DC.

**Table 8-11. Array Manager Supported Elements: PERC 3/DC**

<b>Array Manager Version</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 4.2 Driver</b>	<b>NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
2.7	1.57	4.07	5.22	NA	NA	NA	NA
3.0	1.57	4.07	5.22	NA	3.08-j	3.08-j	NA
3.0.1	1.57	4.07	5.22	NA	3.08-j	3.08-j	NA
3.1	161j	4.11	5.22	NA	3.12	3.12	NA
3.1.1	161j	4.11	5.22	NA	3.12	3.12	NA
3.1.2	161j	4.11	5.22.1	NA	3.12	3.12	NA
3.1.3	161N	4.11	5.22.2	NA	3.12	3.12	6.01e
3.2	1.72	4.15	5.32	NA	3.12	6.01r	6.01r
3.3	1.74	4.17.2	5.35.2	NA	3.12	6.02a	6.02a
3.4	1.79	4.18	5.39	6.32.2.32	NA	7.01n	7.01n
3.5	196T	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.6	1970	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.7	1970 (Required) 198Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (32-bit) 6.46.2.32 (64-bit)	NA	7.02c	7.02c

**Table 8-12. enhanced Storage Management Service Supported Elements: PERC 3/DC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	1970	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	198Q	5.48	6.46.2.32 (32-bit) 6.41.2.32 (64-bit)	NA	2.10.7	2.20.4.4

## PERC 3/DCL

The PERC 3/DCL supports the following PowerEdge systems: 1400, 1400SC, and 1550.

Table 8-13 and Table 8-14 show the other elements supported by the PERC 3/DCL.

**Table 8-13. Array Manager Supported Elements: PERC 3/DCL**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	1.57	4.07	5.22	NA	NA	NA	NA
3.0	1.57	4.07	5.22	NA	3.08-j	3.08-j	NA
3.0.1	1.57	4.07	5.22	NA	3.08-j	3.08-j	NA
3.1	161j	4.11	5.22	NA	3.12	3.12	NA
3.1.1	161j	4.11	5.22	NA	3.12	3.12	NA
3.1.2	161j	4.11	5.22.1	NA	3.12	3.12	NA
3.1.3	161N	4.11	5.22.2	NA	3.12	3.12	6.01e
3.2	1.72	4.15	5.32	NA	3.12	6.01r	6.01r
3.3	1.74	4.17.2	5.35.2	NA	3.12	6.02a	6.02a
3.4	1.79	4.18	5.39	6.32.2.32	NA	7.01n	7.01n
3.5	196T	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.6	1970	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.7	1970 (Required) 198Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (32-bit) 6.46.2.32 (64-bit)	NA	7.02c	7.02c

**Table 8-14. enhanced Storage Management Service Supported Elements: PERC 3/DCL**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	1970	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	198Q	5.48	6.46.2.32 (32-bit) 6.41.2.32 (64-bit)	NA	2.10.7	2.20.4.4

## PERC 3/QC

The PERC 3/QC supports the following PowerEdge systems: 2400, 2450, 2500, 2550, 2650, 4400, 4600, 6400, 6450, 6600, 6650, 7150, and 8450.

Table 8-15 and Table 8-16 show the other elements supported by the PERC 3/QC.

**Table 8-15. Array Manager Supported Elements: PERC 3/QC**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	1.57	4.07	5.22	NA	NA	NA	NA
3.0	1.57	4.07	5.22	NA	3.08-j	3.08-j	NA
3.0.1	1.57	4.07	5.22	NA	3.08-j	3.08-j	NA
3.1	161j	4.11	5.22	NA	3.12	3.12	NA
3.1.1	161j	4.11	5.22	NA	3.12	3.12	NA
3.1.2	161j	4.11	5.22.1	NA	3.12	3.12	NA
3.1.3	161N	4.11	5.22.2	NA	3.12	3.12	6.01e
3.2	1.72	4.15	5.32	NA	3.12	6.01r	6.01r
3.3	1.74	4.17.2	5.35.2	NA	3.12	6.02a	6.02a
3.4	1.79	4.18	5.39	6.32.2.32	NA	7.01n	7.01n
3.5	196T	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.6	1970	4.21	5.46	6.41.2.32	NA	7.01z	7.01z

**Table 8-15. Array Manager Supported Elements: PERC 3/QC (continued)**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
3.7	197O (Required) 198Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (32-bit) 6.46.2.32 (64-bit)	NA	7.02c	7.02c

**Table 8-16. enhanced Storage Management Service Supported Elements: PERC 3/QC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	1970	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	198Q	5.48	6.46.2.32 (32-bit) 6.41.2.32 (64-bit)	NA	2.10.7	2.20.4.4

## PERC 4/Di

The PERC 4/Di supports PowerEdge 1750 and 2600 systems.

Table 8-17 and Table 8-18 show the other elements supported by the PERC 4/Di.

**Table 8-17. Array Manager Supported Elements: PERC 4/Di**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
3.2	2.01	4.15	5.32	NA	NA	6.01r	6.01r
3.3	2.01	4.17.2	5.35.2	NA	NA	6.02a	6.02a
3.4 on PowerEdge 2600	2.24	4.18	5.39	6.32.2.32	NA	7.01n	7.01n
3.4 on PowerEdge 1750	4.04	NA	5.39	6.32.2.32	NA	NA	NA

**Table 8-17. Array Manager Supported Elements: PERC 4/Di (continued)**

<b>Array Manager Version</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 4.2 Driver</b>	<b>NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.5 on PowerEdge 2600	2.48	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.5 on PowerEdge 1750	412W	4.21	5.46	6.41.2.32	NA	7.01v	7.01v
3.6 on PowerEdge 1750	412W	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.6 on PowerEdge 2600	2.48	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.7 on PowerEdge 1750	413O (Required) 421Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (Required) 6.46.2.32 (Recommended)	NA	7.02c	7.02c
3.7 on PowerEdge 2600	2.50O (Required) 251Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (Required) 6.46.2.32 (Recommended)	NA	7.02c	7.02c

**Table 8-18. enhanced Storage Management Service Supported Elements: PERC 4/Di**

<b>enhanced Storage Management Service</b>	<b>PERC Firmware Version</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Red Hat Enterprise Linux 2.1 Driver</b>	<b>Red Hat Enterprise Linux 3 Driver</b>	<b>Red Hat Enterprise Linux 4 Driver</b>
1.1 on a PowerEdge 1750	413O	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.1 on a PowerEdge 2600	2.500	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2 on a PowerEdge 1750	421Q	5.48	6.46.2.32 (32-bit) 6.41.2.32 (64-bit)	NA	2.10.7	2.20.4.4

**Table 8-18. enhanced Storage Management Service Supported Elements: PERC 4/Di (continued)**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.2 on a PowerEdge 2600	251Q	5.48	6.46.2.32 (32-bit) 6.41.2.32 (64-bit)	NA	2.10.7	2.20.4.4

## CERC ATA 100 4/CH

The CERC ATA 100 4/CH supports the following PowerEdge systems: 500SC, 600SC, and 1400SC. Table 8-19 and Table 8-20 show the other elements supported by the CERC ATA 100 4/CH.

**Table 8-19. Array Manager Supported Elements: CERC ATA 100 4/CH**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	NA	NA	NA	NA	NA	NA	NA
3.0	NA	NA	NA	NA	NA	NA	NA
3.1	NA	NA	NA	NA	NA	NA	NA
3.1.1	NA	NA	NA	NA	NA	NA	NA
3.1.2	500SC: H661 1400SC: H661	NA	5.26	NA	NA	6.01h	NA
3.1.3	500SC: H661 1400SC: H661	NA	5.26	NA	NA	6.01h	NA
3.2	6.61	4.15	5.32	NA	NA	6.01r	6.01r
3.3	6.62	4.17.2	5.35.2	NA	NA	6.02a	6.02a
3.4	6.62	4.18	5.39	6.32.2.32	NA	7.01n	7.01n
3.5	6.62	4.18	5.46	6.41.2.32	NA	7.01v	7.01v
3.6	6.62	4.21	5.46	6.41.2.32	NA	7.01z	7.01z
3.7	6.62	NA	5.46	6.41.2.32	NA	7.01v	7.01v

**Table 8-20. enhanced Storage Management Service Supported Elements: CERC ATA 100 4/CH**

<b>enhanced Storage Management Service</b>	<b>PERC Firmware Version</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Red Hat Enterprise Linux 2.1 Driver</b>	<b>Red Hat Enterprise Linux 3 Driver</b>	<b>Red Hat Enterprise Linux 4 Driver</b>
1.1	6.62	5.46	6.41.2.32	2.10.1	Native	NA
1.2	6.62	5.46	6.41.2.32	NA	2.10.1	2.10.1

## PERC 2

The PERC 2 supports the following PowerEdge systems: 2300, 2400, 2450, 4300, 4350, 4400, 6300, 6350, 6400, 6450, and 8450.

Table 8-21 and Table 8-22 show the other elements supported by the PERC 2.

**Table 8-21. Array Manager Supported Elements: PERC 2**

<b>Array Manager Version*</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 4.2 Driver</b>	<b>NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
2.7	3073	2988	3070	NA	3070	2987	NA
3.0	3073	2988	3070	NA	3070	2987	NA
3.0.1	3073	2988	3070	NA	3070	2987	NA
3.1	3116	4892	4892	NA	3499	3506	NA
3.1.1	3116	4892	4892	NA	3499	3506	NA
3.1.2	3153	4933	4933	NA	NA	3546	NA
3.1.3	3153	4933	4933	NA	NA	3546	3546
3.2	3153	4933	4933	NA	NA	3546	3546
3.3	3170	4944	4944	NA	NA	3564	3564
3.4	3170	4944	4944	4944	NA	3564	3564
3.5	6082	6075	6076	6076	NA	6075	6075
3.6	6089	6075	6085	6085	NA	6075	6075
3.7	2.8.0.6089	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

**Table 8-22. enhanced Storage Management Service Supported Elements: PERC 2**

enhanced Storage Management Service*/**	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	2.8.0.6089	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.2	2.8.0.6089	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

\*\* The 1.1.4 Linux driver is included in the Red Hat Package Manager (RPM) 2302.

## PERC 2/Si

The PERC 2/Si supports PowerEdge 2400 systems.

Table 8-23 and Table 8-24 show the other elements supported by the PERC 2/Si.

**Table 8-23. Array Manager Supported Elements: PERC 2/Si**

Array Manager Version*	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 5.x Driver	NetWare 6.x Driver
2.7	2991	2988	3070	NA	2987	2987
3.0	2991	2988	3070	NA	2987	2987
3.0.1	2993	2988	3070	NA	2987	2987
3.1	3506	4892	4892	NA	3499	3506
3.1.1	3506	4892	4892	NA	3499	3506
3.1.2	3546	4933	4933	NA	NA	3546
3.1.3	3552	4933	4933	NA	NA	3546
3.2	3552	4933	4933	NA	NA	3546
3.3	3571	4944	4944	NA	NA	3564
3.4	3571	4944	4944	4944	NA	3564
3.5	6082	6075	6076	6076	NA	6075
3.6	6089	6075	6085	6085	NA	6075
3.7	2.8.0.6089	NA	2.8.0.6085*	2.8.0.6085*	NA	6075

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

**Table 8-24. enhanced Storage Management Service Supported Elements: PERC 2/Si**

enhanced Storage Management Service*/**	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	2.8.0.6089	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.2	2.8.0.6089	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

\*\* The 1.1.4 Linux driver is included in the Red Hat Package Manager (RPM) 2302.

## PERC 3/Si

The PERC 3/Si supports the PowerEdge 2450 systems.

Table 8-25 and Table 8-26 show the other elements supported by the PERC 3/Si.

**Table 8-25. Array Manager Supported Elements: PERC 3/Si**

Array Manager Version*	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	2991	2988	3070	NA	2991	2991	NA
3.0	2991	2988	3070	NA	2987	2987	NA
3.0.1	2993	2988	3070	NA	2987	2987	NA
3.1	3506	4892	4892	NA	3506	3506	NA
3.1.1	3506	4892	4892	NA	3506	3506	NA
3.1.2	3546	4933	4933	NA	3546	3546	NA
3.1.3	3546	4933	4933	NA	3546	3546	3546
3.2	3546	4933	4933	NA	NA	3546	3546
3.3	3571	4944	4944	NA	NA	3564	3564
3.4	3571	4944	4944	4944	NA	3564	3564
3.5 on PowerEdge 2400	6077	6075	6076	6076	NA	6075	6075
3.5 on PowerEdge 2450	6082	6075	6076	6076	NA	6075	6075
3.6	6089	6075	6085	6085	NA	6075	6075
3.7	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

**Table 8-26. enhanced Storage Management Service Supported Elements: PERC 3/Si**

enhanced Storage Management Service*/**	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	2.8.0.6089	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.2	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

\*\* The 1.1.4 Linux driver is included in the Red Hat Package Manager (RPM) 2302.

## PERC 3/Di

The PERC 3/Di supports the following PowerEdge systems: 1650, 2500, 2550, 2650, 4400, and 4600.

Table 8-27 and Table 8-28 show the other elements supported by the PERC 3/Di.

**Table 8-27. Array Manager Supported Elements: PERC 3/Di**

Array Manager Version*	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 4.2 Driver	NetWare 5.x Driver	NetWare 6.x Driver
2.7	2991	2988	3070	NA	2987	2987	NA
3.0	2991	2988	3070	NA	2987	2987	NA
3.0.1	2993	2988	3070	NA	2987	2987	NA
3.1	2500: 3116 2550: 3506 4400: 3506 4600: 3116	4892	4892	NA	3499	3506	NA
3.1.1	2550: 3506 4400: 3506 4600: 3116	4892	4892	NA	3499	3506	NA
3.1.2	1650: 3153 2500: 3153 2550: 3546 2650: 3153 4400: 3546 4600: 3153	4933	4933	NA	NA	3546	NA

**Table 8-27. Array Manager Supported Elements: PERC 3/Di (continued)**

<b>Array Manager Version*</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 4.2 Driver</b>	<b>NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.1.3	1650: 3153 2500: 3153 2550: 3546 2650: 3153 4400: 3546 4600: 3153	4933	4933	NA	NA	3546	3546
3.2 for PowerEdge 1650	3153	4933	4933	NA	NA	3546	3546
3.2 for PowerEdge 2500	3153	4933	4933	NA	NA	3546	3546
3.2 for PowerEdge 2550	3546	4933	4933	NA	NA	3546	3546
3.2 for PowerEdge 2650	3157	4933	4933	NA	NA	3546	3546
3.2 for PowerEdge 4400	3546	4933	4933	NA	NA	3546	3546
3.2 for PowerEdge 4600	3153	4933	4933	NA	NA	3546	3546
3.3 for PowerEdge 1650	3170	4944	4944	NA	NA	3564	3564
3.3 for PowerEdge 2500	3170	4944	4944	NA	NA	3564	3564
3.3 for PowerEdge 2550	3571	4944	4944	NA	NA	3564	3564
3.3 for PowerEdge 2650	3170	4944	4944	NA	NA	3564	3564
3.3 for PowerEdge 4400	3571	4944	4944	NA	NA	3564	3564
3.3 for PowerEdge 4600	3170	4944	4944	NA	NA	3564	3564
3.4 for PowerEdge 1650	3170	4944	4944	4944	NA	3564	3564
3.4 for PowerEdge 2500	3170	4944	4944	4944	NA	3564	3564

**Table 8-27. Array Manager Supported Elements: PERC 3/Di (continued)**

<b>Array Manager Version*</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 4.2 Driver</b>	<b>NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.4 for PowerEdge 2550	3571	4944	4944	4944	NA	3564	3564
3.4 for PowerEdge 2650	3170	4944	4944	4944	NA	3564	3564
3.4 for PowerEdge 4400	3571	4944	4944	4944	NA	3564	3564
3.4 for PowerEdge 4600	3170	4944	4944	4944	NA	3564	3564
3.5 for PowerEdge 1650	6082	6075	6076	6076	NA	6075	6075
3.5 for PowerEdge 2500	6082	6075	6076	6076	NA	6075	6075
3.5 for PowerEdge 2550	6082	6075	6076	6076	NA	6075	6075
3.5 for PowerEdge 2650	6082	6075	6076	6076	NA	6075	6075
3.5 for PowerEdge 4400	6082	6075	6076	6076	NA	6075	6075
3.5 for PowerEdge 4600	6082	6075	6076	6076	NA	6075	6075
3.6	6089	6075	6085	6085	NA	6075	6075
3.7 for PowerEdge 1650	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075
3.7 for PowerEdge 2500	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075
3.7 for PowerEdge 2550	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075
3.7 for PowerEdge 2650	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075
3.7 for PowerEdge 4400	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075
3.7 for PowerEdge 4600	2.8.0.6092	NA	2.8.0.6085*	2.8.0.6085*	NA	6075	6075

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

**Table 8-28. enhanced Storage Management Service Supported Elements: PERC 3/Di**

<b>enhanced Storage Management Service*/**</b>	<b>PERC Firmware Version</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Red Hat Enterprise Linux 2.1 Driver</b>	<b>Red Hat Enterprise Linux 3 Driver</b>	<b>Red Hat Enterprise Linux 4 Driver</b>
1.1 on a PowerEdge 1650	2.8.0.6092	2.8.0.6085	2.8.0.6085	1.1.4**	1.1.4**	NA
1.1 on a PowerEdge 2500	2.8.0.6092	2.8.0.6085	2.8.0.6085	1.1.4**	1.1.4**	NA
1.1 on a PowerEdge 2550	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.1 on a PowerEdge 2650	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.1 on a PowerEdge 4400	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.1 on a PowerEdge 4600	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.2 on a PowerEdge 1650	2.8.0.6092	2.8.0.6085	2.8.0.6085	1.1.4**	1.1.4**	1.1.5.2372
1.2 on a PowerEdge 2500	2.8.0.6092	2.8.0.6085	2.8.0.6085	1.1.4**	1.1.4**	NA
1.2 on a PowerEdge 2550	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.2 on a PowerEdge 2650	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	1.1.5.2372
1.2 on a PowerEdge 4400	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	NA
1.2 on a PowerEdge 4600	2.8.0.6092	2.8.0.6085*	2.8.0.6085*	1.1.4**	1.1.4**	1.1.5.2372

\* Device Manager lists the 2.8.0.6076 driver as 2.8.0.6085.

\*\* The 1.1.4 Linux driver is included in the Red Hat Package Manager (RPM) 2302.

## PERC 4/IM

The PERC 4/IM is supported by PowerEdge 1655MC and 1855 systems.

Table 8-29, Table 8-30, and Table 8-31 show the other elements supported by the PERC 4/IM.

**Table 8-29. Array Manager Supported Elements: PERC 4/IM**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 5.x Driver	NetWare 6.x Driver
3.4 on PowerEdge 1655MC	1.00.12.00	1.08.06	1.08.06	1.08.18	NA	NA
3.4 PERC 4/im	1.02.09.00	1.08.19	1.08.19	1.08.18	3.01.00	3.01.00
3.5 on PowerEdge 1655MC	1.00.12.00	NA	1.08.06	1.08.18 Native	NA	NA
3.6 on PowerEdge 1655MC	1.00.12.00	NA	1.08.06	1.08.18 Native	NA	NA
3.7 on PowerEdge 1655MC	1.00.12.00 (1.00.0c.00 Hex)	NA	1.08.06	1.08.18 Native (Required) 1.08.06 (Recommended)	NA	NA



**NOTE:** Array Manager supports PERC 4/IM only on PowerEdge 1655MC.

**Table 8-30. enhanced Storage Management Service Supported Elements: PERC 4/IM**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1 on PowerEdge 1655MC	1.00.12.00 1.00.0c.00 Hex	1.08.06	1.08.18 (Native)	NA	NA	NA
1.0.1 on PowerEdge 1855	1.03.23.90	1.09.11	1.09.11	Native	Native	NA
1.2 on PowerEdge 1655MC	1.00.12.00 1.00.0c.00 Hex	1.08.06	1.08.18 (Native)	NA	NA	NA
1.2 on PowerEdge 1855	1.03.23.90	1.09.11	1.09.11	NA	Native	Native

**Table 8-31. enhanced Storage Management Service Supported Elements: PERC 4/IM**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver
1.0.1 on a PowerEdge 1855	1.03.23.00	1.09.11	1.09.11	Native	Native

## PERC 4/SC

The PERC 4/SC is supported by the following PowerEdge systems: 500SC, 600SC, 1400, 1400SC, 1500SC, 1600 SC, and PE640.

Table 8-32 and Table 8-33 show the other elements supported by the PERC 4/SC.

**Table 8-32. Array Manager Supported Elements: PERC 4/SC**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 5.x Driver	NetWare 6.x Driver
3.4	3.17	4.18	5.39	6.32.2.32	7.01n	7.01n
3.5	3.41	4.21	5.46	6.41.2.32	7.01v	7.01v
3.6	3500	4.21	5.46	6.41.2.32	7.01z	7.01z
3.7	3500 (Required) 351Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32	7.02c	7.02c

**Table 8-33. enhanced Storage Management Service Supported Elements: PERC 4/SC**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	3500	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	351Q	5.48	6.46.2.32 (32-bit) 6.46.3.64 (64-bit)	2.10.7	2.10.7	2.20.4.4

## CERC SATA 1.5/6 Channel

The CERC SATA 1.5/6 Channel supports the following PowerEdge systems: 700, 750, 800, and 1800. Table 8-34 and Table 8-35 show the other elements supported by the CERC SATA 1.5/6 Channel.

**Table 8-34. Array Manager Supported Elements: CERC SATA 1.5/6 Channel**

<b>Array Manager Version</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.5	4.1.0.7028	NA	4.1.0.7010	4.1.0.7010	4.1.0.7131	4.1.0.7131
3.6	4.1.0.7028	NA	4.1.0.7010	4.1.0.7010	4.1.0.7131	4.1.0.7131
3.7	2.8.0.7403 (Required) 4.1.0.7406 (Recommended)	NA	2.8.0.7010 (Required) 4.1.0.7010 (Recommended)	2.8.0.7010 (Required) 4.1.0.7010 (Recommended)	7031	7031

**Table 8-35. enhanced Storage Management Service Supported Elements: CERC SATA 1.5/6 Channel**

<b>enhanced Storage Management Service**</b>	<b>PERC Firmware Version</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Red Hat Enterprise Linux 2.1 Driver</b>	<b>Red Hat Enterprise Linux 3 Driver</b>	<b>Red Hat Enterprise Linux 4 Driver</b>
1.1	2.8.0.7403	2.8.0.7010	2.8.0.7010	1.1.4**	1.1.4**	NA
1.2	4.1.0.7406	4.1.0.7010	4.1.0.7010 (32-bit) 4.1.1.7035 (64-bit)	1.1.4**	1.1.4**	NA

\*\* The 1.1.4 Linux driver is included in the Red Hat Package Manager (RPM) 2302.

## PERC 4e/Di

The PERC 4e/Di supports the following PowerEdge systems: 2800 and 2850.

Table 8-36 and Table 8-37 show the other elements supported by the PERC 4e/Di.

**Table 8-36. Array Manager Supported Elements: PERC 4e/Di**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 5.x Driver	NetWare 6.x Driver
3.5 on PowerEdge 2800	3150	NA	5.46	6.41.2.32	7.01z	7.01z
3.5 on PowerEdge 2850	3150	NA	5.46	6.41.2.32	7.01z	7.01z
3.6 on PowerEdge 2800	3150	NA	5.46	6.41.2.32	7.01z	7.01z
3.6 on PowerEdge 2850	3150	NA	5.46	6.41.2.32	7.01z	7.01z
3.7	5130 (Required) 521Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (Required) 6.46.2.32 (Recommended)	7.02c	7.02c

**Table 8-37. enhanced Storage Management Service Supported Elements: PERC 4e/Di**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	5130	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	521Q	5.48	6.46.2.32 (32-bit) 6.46.3.64 (64-bit)	2.10.7	2.10.7	2.20.4.4

## PERC 4e/Si

The PERC 4e/Si supports the following PowerEdge system: 1850.

Table 8-38 and Table 8-39 show the other elements supported by the PERC 4e/Si.

**Table 8-38. Array Manager Supported Elements: PERC 4e/Si**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 5.x Driver	NetWare 6.x Driver
3.5	3150	NA	5.46	6.41.2.32	7.01z	7.01z
3.6	3150	NA	5.46	6.41.2.32	7.01z	7.01z
3.7	5130 (Required) 521Q (Recommended)	NA	5.46 (Required) 5.48 (Recommended)	6.41.2.32 (32-bit) 6.46.2.32 (64-bit)	7.02c	7.02c

**Table 8-39. enhanced Storage Management Service Supported Elements: PERC 4e/Si**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	5130	5.46	6.41.2.32	2.10.7	2.10.7	NA
1.2	521Q	5.48	6.46.2.32 (32-bit) 6.46.3.64 (64-bit)	2.10.7	2.10.7	2.20.4.4

## PERC 5/e

The PERC 5/e supports the following PowerEdge systems: 6800 and 6850

Table 8-40 shows the other elements supported by the PERC 5/e.

**Table 8-40. enhanced Storage Management Service Supported Elements: PERC 5/e**

enhanced Storage Management Service	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.4	5.0.1-0007	1.13.00.32	1.13.00.32 (32-bit)  1.13.00.64 (64-bit)	NA	00.00.02.00	00.00.02.00

## CERC SATA 1.5/2S

The CERC SATA 1.5/2s supports the following PowerEdge systems: 800 and 1800.

Table 8-41 and Table 8-42 show the other elements supported by the CERC SATA 1.5/2S.

**Table 8-41. Array Manager Supported Elements: CERC SATA 1.5/2S**

Array Manager Version	PERC Firmware Version	Microsoft Windows NT 4.0 Driver	Windows 2000 Driver	Windows Server 2003 Driver	Novell NetWare 5.x Driver	NetWare 6.x Driver
3.6	NA	NA	6.00.044	6.00.044	6.00.045	6.00.045
3.7	NA	NA	6.00.050	6.00.050	6.00.053**	6.00.053**

\*\* The CERC SATA1.5/2s controller requires the aarichd.ham driver on a Novell NetWare system.

**Table 8-42. enhanced Storage Management Service Supported Elements: CERC SATA 1.5/2S**

enhanced Storage Management Service**	PERC Firmware Version	Windows 2000 Driver	Windows Server 2003 Driver	Red Hat Enterprise Linux 2.1 Driver	Red Hat Enterprise Linux 3 Driver	Red Hat Enterprise Linux 4 Driver
1.1	NA	6.00.048	6.00.048	1.1.4**	NA	NA
1.2	NA	6.00.050	6.00.050	1.1.4**	NA	NA

\*\* The 1.1.4 Linux driver is included in the Red Hat Package Manager (RPM) 2302.

## LSI 1020/1030 Embedded SCSI Controller

This embedded SCSI controller is an onboard chip. It supports the following systems: 1600SC, 1750, 1800, 1850, 2600, 2650, 2800, 2850, 6800, 6850, and 7250.

Table 8-43 and Table 8-44 show the other elements supported by the LSI 1020/1030.

**Table 8-43. Array Manager Supported Elements: LSI 1020**

<b>Array Manager Version</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.7 on a PowerEdge 1600SC	1.03.04.00	NA	1.08.19 (Required) 1.09.11 (Recommended)	1.08.19 Native (Required) 1.09.11 (Recommended)	NA	3.03

 **NOTE:** PowerEdge systems 6800 and 6850 do not support Novell NetWare.

**Table 8-44. enhanced Storage Management Service Supported Elements: LSI 1020**

<b>enhanced Storage Management Service</b>	<b>PERC Firmware Version</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Red Hat Enterprise Linux 2.1 Driver</b>	<b>Red Hat Enterprise Linux 3 Driver</b>	<b>Red Hat Enterprise Linux 4 Driver</b>
1.1 on a PowerEdge 1600SC	1.03.04.00	1.08.19	1.08.18 (Native)	NA	NA	NA
1.2 on a PowerEdge 1600SC	1.03.23	1.09.11	1.09.11	2.05.16	2.05.11.03	Native
1.4 on a PowerEdge 1600SC	1.03.23	1.09.11	1.09.11	2.05.16	2.05.11.03	Native

**Table 8-45. Array Manager Supported Elements: LSI 1030**

<b>Array Manager Version</b>	<b>PERC Firmware Version</b>	<b>Microsoft Windows NT 4.0 Driver</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Novell NetWare 5.x Driver</b>	<b>NetWare 6.x Driver</b>
3.7 on a PowerEdge 1750	1.01.061.00 (Required) 1.03.23 (Recommended)	NA	1.08.19 (Required) 1.09.11 (Recommended)	1.08.18 (Native)	NA	3.03
3.7 on a PowerEdge 2600	1.01.061.00 (Required) 1.03.23 (Recommended)	NA	1.08.19 (Required) 1.09.11 (Recommended)	1.08.18 (Native)	NA	3.03

**Table 8-46. enhanced Storage Management Service Supported Elements: LSI 1030**

<b>enhanced Storage Management Service</b>	<b>PERC Firmware Version</b>	<b>Windows 2000 Driver</b>	<b>Windows Server 2003 Driver</b>	<b>Red Hat Enterprise Linux 2.1 Driver</b>	<b>Red Hat Enterprise Linux 3 Driver</b>	<b>Red Hat Enterprise Linux 4 Driver</b>
1.1 on PowerEdge 1750	1.01.61.00	1.08.19	1.08.18 (Native)	NA	NA	NA
1.1 on PowerEdge 2600	1.01.61.00	1.08.19	1.08.18 (Native)	NA	NA	NA
1.2 on a PowerEdge 1750	1.03.23	1.09.11	1.09.11 (Native)	2.05.16	2.05.11.03	Native
1.2 on a PowerEdge 2600	1.03.23	1.09.11	1.09.11 (Native)	2.05.16	2.05.11.03	Native
1.4 on a PowerEdge 1750	1.03.23	1.09.11	1.09.11 (Native)	NA	2.05.11.03	Native
1.4 on a PowerEdge 2600	1.03.23	1.09.11	1.09.11 (Native)	NA	2.05.11.03	Native



# Network Interface Controllers and Supported Operating Systems

## Overview

The drivers that are required for a particular Network Interface Card (NIC) depend on the operating system that is installed on your system.

Table 9-1 shows the relationship between NICs supported by Server Administrator and the drivers that they require on each supported operating system.

For a list of Server Administrator supported operating systems, see "Introduction."

 **NOTE:** Starting with Dell OpenManage™ version 4.3, the *Dell OpenManage Systems Management* CD has been replaced by the *Dell™ PowerEdge™ Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

## NIC Drivers and Operating Systems

To determine required drivers for NIC systems management, locate your NIC manufacturer in Table 9-1 and the operating system that is installed on your system.

In Table 9-1, "NA" indicates that the driver is supplied by the operating system rather than by the manufacturer of the NIC.

**Table 9-1. NIC Manufacturers and Drivers Required for Supported Operating Systems**

<b>NIC Product Name</b>	<b>Microsoft® Windows® 2000</b>	<b>Microsoft Windows 2003</b>	<b>Novell® NetWare®</b>	<b>Red Hat® Enterprise Linux 2.1 and 3</b>	<b>Red Hat Enterprise Linux 4</b>
3COM® 3C98x Family of Adapters <b>NOTE:</b> Dell no longer supports this NIC.	NA	NA	2.0	NA	NA
Alteon ACEnic Copper Gigabit	7.100 (7.7 family of adapters)	7.100 (7.7 family of adapters)	7.63 (7.7 family of adapters)	7.4.12 (7.7 family of adapters)	3.10 Broadcom driver <b>NOTE:</b> bcm5700 is not supported on Red Hat Enterprise Linux 4.
Broadcom NetXtreme Family of Adapters <b>NOTE:</b> Diagnostics for Broadcom NICs is not supported on Red Hat Enterprise Linux version 4.	7.100 (7.7 family of adapters)	7.100 (7.7 family of adapters)	7.63 (7.7 family of adapters)	7.4.12 (7.7 family of adapters)	3.10 Broadcom driver <b>NOTE:</b> bcm5700 is not supported on Red Hat Enterprise Linux 4.
Intel® EtherExpress® Family of Adapters	6.0	8.0.17 (Intel PRO/100 Adapters) 8.4.21 (Intel PRO/1000 Adapters)	6.0 (A00)	NA	NA (Intel PRO/100 Adapters) 5.7.6.1 (Intel PRO/1000 Adapters)

# Remote Access Service Availability

## Overview

Although all supported operating systems for Server Administrator support remote access, remote access availability is system-dependent. The Remote Access Service is supported on the following Dell™ PowerEdge™ systems only: 700 SC, 750, 800, 830, 850, 1600SC, 1650, 1750, 1800, 1850, 1855, 2600, 2650, 2800, 2850, 4600, 6600, 6650, 6800, and 6850.

The Server Administrator GUI does not display any services on your system that are not available for that system or for that system configuration.

 **NOTE:** Starting with Dell OpenManage™ version 4.3, the *Systems Management* CD has been replaced by the *Dell PowerEdge Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

## RAC Types

The remote access controller (RAC) cards that are available for specific PowerEdge systems are the DRAC III, DRAC III/XT, DRAC 4/I (for Dell PowerEdge 1850, 2800, and 2850), DRAC 4/P (for Dell PowerEdge 1800), ERA, and ERA/O. The DRAC III is unique among the RACs. The DRAC III occupies a PCI slot, and has a modem, a battery, and an external AC power connection unlike the other RACs.

## Availability of RACs on Specific PowerEdge Systems

Table 10-1 shows the RACs that are available on specific PowerEdge systems.

 **NOTE:** The ERA/MC is supported on PowerEdge 1655MC systems.

**Table 10-1. RACs Availability on Specific PowerEdge Systems**

PowerEdge System	DRAC III	ERA	ERA/O	DRAC III/XT	DRAC 4	DRAC/MC
700SC				X		
750				X		
800					X	
830					X	
850					X	

**Table 10-1. RACs Availability on Specific PowerEdge Systems (continued)**

PowerEdge System	DRAC III	ERA	ERA/O	DRAC III/XT	DRAC 4	DRAC/MC
1600SC				X		
1650	X		X			
1750			X			
1800					X	
1850					X	
1855						X
2600			X			
2650		X				
2800					X	
2850					X	
4600	X					
6600	X					
6650	X					
6800					X	
6850					X	

## RAC Firmware Versions

Table 10-2 shows the firmware version required for each RAC that is offered on the corresponding *Systems Management CD*.

**Table 10-2. RAC Firmware Version by Systems Management CD Version**

Systems Management CD Version	Firmware Version				
	DRAC III	ERA	ERA/O	DRAC III/XT	DRAC 4
3.0	1.10	NA	NA	NA	NA
3.0.1	1.10	NA	NA	NA	NA
3.0.2	1.10	1.05	NA	NA	NA
3.1	1.20	1.05	1.10	NA	NA
3.1.1	1.20	1.05	1.20	NA	NA
3.2	1.30	1.07	1.20	NA	NA
3.2.2	1.30	1.07	1.20	1.30	NA

**Table 10-2. RAC Firmware Version by Systems Management CD Version (continued)**

Systems Management CD Version	Firmware Version				
	DRAC III	ERA	ERA/O	DRAC III/XT	DRAC 4
NA	NA	1.21	NA	NA	NA
3.3	2.0	2.0	2.0	2.0	NA
3.4	2.2	2.2	2.2	2.2	NA
3.5	2.5	2.5	2.5	2.5	NA
3.6	3.0	3.0	3.0	3.0	NA
3.7	3.10	3.10	3.10	3.10	NA
3.8	3.12	3.12	3.12	3.12	NA
4.0.1	NA	NA	NA	NA	1.0
4.1	3.14	3.14	3.14	3.14	1.0
4.1.1	NA	NA	NA	NA	1.0
4.1.2	NA	NA	NA	NA	1.0
4.1.3	NA	NA	NA	NA	1.0
4.1.4	NA	NA	NA	NA	NA
4.2	3.20	3.20	3.20	3.20	1.1

Table 10-3 shows the firmware version required for each RAC that is offered on the corresponding *Systems Management Consoles* CD.

**Table 10-3. RAC Firmware Version by Systems Management Consoles CD Version**

Systems Management CD Version	Firmware Version				
	DRAC III	ERA	ERA/O	DRAC III/XT	DRAC 4
4.3	3.2.1	3.20	3.20	3.20	1.2
4.4	3.3.0	3.3.0	3.3.0	3.3.0	1.30
4.5	3.3.0	3.3.0	3.3.0	3.3.0	1.30
4.5.1	NA	NA	NA	NA	1.3.2



# Diagnostic Service Supported Devices and Operating Systems

## Overview

This section lists devices that can be tested using the Server Administrator Diagnostic Service. "Diagnostics for Dell-Supplied Devices" provides a general list of devices supported by the Server Administrator Diagnostic Service.

Diagnostics are supported on the following operating systems: Microsoft® Windows® or Red Hat® Enterprise Linux.

For information about how to run diagnostic tests, see the *Server Administrator User's Guide* and the *Server Administrator Command Line Interface User's Guide*.

 **NOTE:** Starting with Dell OpenManage™ version 4.3, the *Systems Management* CD has been replaced by the *Dell™ PowerEdge™ Installation and Server Management* CD. References in this guide to the *Systems Management* CD are for Dell OpenManage versions 3.0 through 4.2.

## Diagnostics for Dell-Supplied Devices

 **NOTE:** The Intel® management agent is required for the Intel network adapter diagnostics. If this agent is not installed, the default network diagnostics are available. Use *Dell OpenManage Server Assistant* (version 8.x or 2.x) to install Intel PROSet or you can download Intel PROSet from the Dell Support website at [support.dell.com](http://support.dell.com). Intel PROSet is listed under **Intel PRO Family of Adapters**.

 **NOTE:** You must install Dell-qualified device drivers in order to run diagnostics on devices like tape drives, tape autoloaders, tape libraries, NIC, RAID controllers, and attached hard drives. See the documentation that came with your device, or access the latest drivers from the Dell Support website at [support.dell.com](http://support.dell.com).

Server Administrator specifically supports diagnostics for the following Dell-supplied hardware devices:

- CD drives
- DVD drives
- CD-RW/DVD combination drives
- Diskette
- Network Interface Cards (NIC)
- Modems

- SCSI controllers
- SAS controllers
- Hard drives (such as IDE, SATA, SCSI, and Serial Attached SCSI (SAS))
- Memory (DIMMs)
- CMOS
- RAID controllers
- Parallel ports
- Serial ports
- PCI buses
- Remote Access Controller (RAC)
- Tape Drives
- Universal Serial Bus (USB) Controllers
- Auto Loaders
- Libraries



**NOTE:** Virtual CD devices are not supported by the Server Administrator Diagnostic Service.



**NOTE:** Diagnostics for Broadcom NICs are not supported on systems running Red Hat Enterprise Linux version 4.



**NOTE:** Diagnostics for Broadcom modems are not supported on Microsoft Windows Server™ 2003 (64-bit extensions).

## Diagnostics for Tape Drives, Autoloaders, and Libraries

Server Administrator diagnostics support the following Dell-supplied hardware devices.

### Tape Drives

Server Administrator supports diagnostics for the following tape drives:

- Dell PowerVault™ 100T DDS4 (supported only on systems running Windows Server 2000 and Windows Server 2003)
- PowerVault 100T DAT72 (supported only on systems running Windows Server 2000 and Windows Server 2003)
- PowerVault 110T DLT1
- PowerVault 110T VS80
- PowerVault 110T VS160
- PowerVault110T SDLT220
- PowerVault 110T SDLT320
- PowerVault 110T-LTO2

- PowerVault 132T-LTO2
- PowerVault 136T-LTO2 (drive-only)
- PowerVault 110T-LTO2LC
- PowerVault 110T-LTO3
- PowerVault 132T-LTO1
- PowerVault 122T-LTO1
- PowerVault 122T-LTO2
- PowerVault MD1000
- All drives in supported arrays, autoloaders, and libraries (See "Tape Arrays, Autoloaders, and Libraries.")

### **Tape Arrays, Autoloaders, and Libraries**

Server Administrator supports diagnostics for the following tape arrays, tape autoloaders, and tape libraries:

- PowerVault 122T VS80
- PowerVault 122T SDLT320
- PowerVault 128T SDLT320 (supports diagnostics for tape drives only)
- PowerVault 132T SDLT320
- PowerVault 136T SDLT220
- PowerVault 136T SDLT320

## **Diagnostics for RAID Controllers, SCSI Controllers, and Attached Hard Drives**

 **NOTE:** For a list of firmware requirements that are required for each controller, see "RAID Controller Supported Servers, Operating Systems, Firmware, and Driver Versions."

This section lists Diagnostic Service support by operating system for RAID and SCSI controllers as well as for hard drives that are attached to RAID, SCSI, and IDE controllers. With the exception of the CERC ATA 100/4 Channel RAID controllers (IDE RAID controllers), all RAID controllers are SCSI RAID controllers.

 **NOTE:** Server Administrator does not support diagnostics for IDE controllers.

## RAID, SCSI, IDE Controllers, and Attached Hard Drives

Server Administrator supports diagnostics for the following RAID and SCSI controllers as well as for the hard drives that are attached to the RAID, SCSI, and IDE controllers, depending on the installed operating system.

 **NOTE:** For all Dell PowerEdge systems running Windows, Dell OpenManage Array Manager version 3.7 or Server Administrator Storage Management Service 1.1 or later is required to diagnose RAID controllers and attached devices when using the Server Administrator Diagnostic Service.

 **NOTE:** Diagnostics depends on the enhanced Storage Management Service to load the `mptctl` module during installation on Red Hat Enterprise Linux. Type the following commands in the Red Hat Enterprise Linux shell to manually load the `mptctl` modules in the following order:

1. `modprobe mptctl`
2. `mknod /dev/mptctl c 10 220`

### Diagnostics Supported on Systems Running Microsoft Windows

For this release, Server Administrator supports diagnostics for the following RAID controller as well as for hard drives that are attached to this RAID controller, on systems running Windows: PERC 5/e

### Diagnostics Supported on Systems Running Red Hat Linux

For this release, Server Administrator supports diagnostics for the following RAID controller as well as for hard drives that are attached to this RAID controller, on systems running Red Hat Enterprise Linux operating systems: PERC 5/e

# Historical Release Information for Legacy Systems

## Overview

The following sections contain historical information about releases of the Dell OpenManage™ Server Agent running on supported Microsoft® Windows®, Red Hat® Enterprise Linux, and Novell® NetWare® operating systems. The following excerpts from previous **readme.txt** files show a record of features and resolved issues for releases of Server Agent only. For the complete text of **readme.txt** files, see the Dell Support website at [support.dell.com](http://support.dell.com).

You can find additional information on more recent systems management applications in the Server Administrator **readme.txt** found on the *Systems Management* CDs, version 3.0 or later.

## Server Agent 4.5

The following subsections contain requirements, features, and open issues for Server Agent version 4.5.

Release date: October 2001

### Requirements

Supported systems: Dell™ PowerEdge™ 1500SC

### Operating Systems

- Microsoft Windows NT® Server 4.x with SP 4 or later
- Microsoft Windows 2000 Server family (includes Windows 2000 Server and Windows 2000 Advanced Server)
- Novell NetWare 5.x
- Red Hat Linux 7.1



**NOTE:** Server Agent is not supported on a PowerEdge 1500SC system running either the Red Hat Linux 7.0 operating system or the Novell NetWare 4.x operating system.

### New in Server Agent Version 4.5

Support was added for the PowerEdge 1500SC system.

# Server Agent 4.4.1

The following subsections contain requirements, features, and open issues for Server Agent version 4.4.1.  
Release date: September 2001

## Requirements

Supported systems: Dell PowerEdge 300, 350, 500SC, 1300, 1400, 1550, 2300, 2400, 2450, 2500, 2550, 4300, 4350, 4400, 6300, 6350, 6400, 6450, and 8450

## Operating Systems

- Microsoft Windows NT Server 4.x with SP 4 or later
- Microsoft Windows 2000 Server family (includes Windows 2000 Server and Windows 2000 Advanced Server)
- Novell NetWare 4.x or 5.x
- Red Hat Linux 7.0



**NOTE:** Server Agent is not supported on a PowerEdge 500SC system running the Red Hat Linux 7.0 operating system.

## New in Server Agent Version 4.4.1

This release contains the following new features and changes:

- Support for Red Hat Linux 7.1 SBE (Kernels 2.4.3-6 and 2.4.3-12) with pre-built device drivers
- Dynamic Kernel Support for Red Hat Linux
- Removal of support for the DMI management protocol
- In the Server Agent MIB file `10892.mib`, replacement of "Dell" by "Server" in the annotation TYPE field for each trap
- In the Server Agent event configuration file `10892evt.cfg`, the changing of the `OID_ALIAS` value from "Dell\_Server3\_Baseboard\_Agent" to "Server\_Agent," and replacement of "Dell" by "Server" in the **Short Descr** field for each event

## Server Agent 4.4.0

The following subsections contain requirements, features, and open issues for Server Agent version 4.4.0.

Release date: July 2001

### Requirements

Supported systems: Dell PowerEdge 350, 500SC, and 1550

### Operating Systems

- Microsoft Windows NT Server 4.x with SP 4 or later
- Microsoft Windows 2000 Server family (includes Windows 2000 Server and Windows 2000 Advanced Server)
- Novell NetWare 4.x or 5.x
- Red Hat Linux 7.0; Kernel version: 2.2.16; Red Hat Linux SNMP agent: ucd-snmp version 4.1.2-8smux

### New in Server Agent Version 4.4.0

This release adds support for the following Dell systems and features:

- PowerEdge 500SC
- PowerEdge 1550 with the Intel® Pentium® III microprocessor
- PowerEdge 350 watchdog support

## Server Agent 4.3.0

Version 4.3.0 is the first release of Server Agent that combines supported operating systems for Microsoft Windows, Novell NetWare, and Red Hat Linux. All of these supported operating systems are documented in this [readme.txt](#) file.

Release date: March 2001

### Requirements

Supported systems: Dell PowerEdge 300, 350, 1300, 1400, 1550, 2300, 2400, 2450, 2500, 2550, 4300, 4350, 4400, 6300, 6350, 6400, 6450, 8450

### Operating Systems

- Microsoft Windows NT Server 4.x with SP 4 or later
- Microsoft Windows 2000 Server family (includes Windows 2000 Server and Windows 2000 Advanced Server)
- Novell NetWare 4.x or 5.x
- Red Hat Linux 7.0; Kernel version: 2.2.16; Red Hat Linux SNMP agent: ucd-snmp version 4.1.2-8smux

## **New in Server Agent Version 4.3.0**

This release adds support for the following Dell systems:

- PowerEdge 2500
- PowerEdge 2550

## **Server Agent 4.3.0 Resolved Issues**

- Hung server alerts for PowerEdge 8450 systems

When you configure the hung server action for a Dell PowerEdge 8450 system, the system either performs a system reset or a recycle system power action.

- PowerEdge 350 issues

This release addressed the following Dell PowerEdge 350 issues that were originally addressed by Dell OpenManage Server Agent 4.2.0 Update 1:

- Changes thresholds for the -12 volt (V) voltage probe on the system board. These new thresholds prevent erroneous probe failures and warnings.
- Corrects erroneous fan failure reports in the event log.
- Corrects system crashes at start-up caused by incorrect event log record length.
- Disables the chassis identification feature.

- Dell PowerVault™ 2xxS SCSI disk systems and SNMP

This release addresses the following PowerVault 2xxS SCSI disk system issue that was originally addressed by Server Agent 4.2.0 Update 1:

- Allows Dell PowerEdge systems attached to the PowerVault 2xxS SCSI disk system to respond to SNMP requests for information. Under certain rare circumstances, some Dell systems with PowerVault 2xxS attached were not responding to SNMP requests.

## Server Agent 4.2.2

The following subsections contain requirements, features, and open issues for Server Agent version 4.2.2.  
Release date: February 2001

### Requirements

Supported systems: Dell PowerEdge 300, 350, 1300, 1400, 1550, 2300, 2400, 2450, 4300, 4350, 4400, 6300, 6350, 6400, 6450, 8450

### Operating Systems

- Microsoft Windows NT Server 4.x with SP 4 or later
- Microsoft Windows 2000 Server family (includes Windows 2000 Server and Windows 2000 Advanced Server)
- Novell NetWare 4.x or 5.x

### New and Resolved Issues in Server Agent Version 4.2.2

Dell OpenManage Server Agent 4.2.2 now supports the Dell PowerEdge 350 system. In addition, Dell OpenManage Server Agent 4.2.2 resolves the following issues:

- Incorrect current sensor data
  - In rare circumstances Dell OpenManage Server Agent incorrectly reported data for current (amperage) sensors. Incorrect amperage readings may have been reported for the following PowerEdge systems: 4300, 4350, 4400, 6300, 6350, 6400, and 6450.
- SNMP time-outs with PowerVault 2xxS SCSI disk systems
  - In rare circumstances the Dell OpenManage Server Agent SNMP interface stops responding when a Dell PowerVault 2xxS storage system is attached to a system. The DMI and CIM interfaces may also stop responding.

## Server Agent 4.2.1

The following subsections contain requirements, features, and open issues for Server Agent version 4.2.1.

Release date: December 2000

### Requirements

Supported systems: Dell PowerEdge 1300, 1400, 1550, 2300, 2400, 2450, 4300, 4350, 4400, 6300, 6350, 6400, 6450, 8450

### Operating Systems

- Microsoft Windows NT Server 4.x with SP 4 or later
- Microsoft Windows 2000 Server family (includes Windows 2000 Server and Windows 2000 Advanced Server)
- Novell NetWare 4.x or 5.x

### New in Server Agent Version 4.2.1

Added support for PowerEdge 1550 system

### Resolved Issues for Server Agent Version 4.2.1

**Table 12-1. Resolved Issues for Server Agent Version 4.2.1**

<b>Problem</b>	<b>Solution</b>
IT Assistant is unable to perform a remote flash BIOS update for the PowerEdge 300 system.	Server Agent 4.2.1 enables IT Assistant to perform a remote flash BIOS update for the PowerEdge 300 system.
Server Agent reports an error message that values are incorrect for CPU voltage threshold values for the PowerEdge 8450 system on systems with a CPU speed of 700 MHz and higher.	Server Agent 4.2.1 reports correct CPU voltage threshold values.
Server Agent 4.0 did not implement the %ALERT parameter correctly in the local response agent.	Server Agent 4.2.1 correctly parses the %ALERT parameter. The %ALERT parameter can now be located anywhere in the command line and can optionally be enclosed in double quotes when the user wants to pass the alert message to the command line as a single string.

**Table 12-1. Resolved Issues for Server Agent Version 4.2.1 (continued)**

<b>Problem</b>	<b>Solution</b>
Intermittent incorrect fan probe readings of zero RPMs cause faulty alerts to be generated. Invalid fan probe readings also compromise the usability of Server Agent.	Server Agent 4.2.1 prevents false alerts for fan probes based on incorrect readings of fan RPM values. This update also addresses usability issues caused by these incorrect fan RPM values. The incorrect fan RPM readings originate on PowerEdge systems that report systems management information to the management console using Server Agent version 4.0.
Seven-character service tags display incorrectly.	Formerly, certain combinations of characters and numbers in the seven-character service tag either did not display correctly or did not display at all. Server Agent 4.2.1 displays service tags correctly.
False power supply fan readings. Server Agent reports high power supply fan RPM readings. The readings exceed the upper failure threshold and are reported as failures.	Server Agent 4.2.1 corrects the problem of false fan probe alerts.

## Server Agent 4.2.0

The following subsections contain requirements, features, and open issues for Server Agent version 4.2.0.

Release date: December 2000

### Requirements

Supported systems: Dell PowerEdge 300, 1300, 1400, 1550, 2300, 2400, 2450, 4300, 4350, 4400, 6300, 6350, 6400, 6450, 8450

### Operating Systems

- Red Hat Linux 7.0 (Kernel version: 2.2.16), Red Hat Linux SNMP agent: ucd-snmp version 4.1.2-8smux or later

