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DELL(TM) UPDATE PACKAGES README FOR LINUX

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Version 6.0.1

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This Readme contains updated information for your "Dell Update Packages for Linux Operating Systems User's Guide" and any other technical documentation included with the Dell Update Packages for Linux.

Dell Update Packages offer ease and flexibility for updating the system software on Dell PowerEdge(TM) systems. Update Packages are available for the following software components:

- * System BIOS
- * System firmware, also known as the Embedded Systems Management (ESM) firmware
- * Dell Remote Access Controller (DRAC) firmware, which also includes Embedded Remote Access (ERA) firmware
- * PowerEdge Expandable RAID Controller (PERC) firmware
- * Dell PowerVault(TM) 220S/221S firmware
- * Baseboard Management Controller (BMC) firmware
- * SCSI Backplane (BP) firmware
- * SAS BP firmware
- * PowerVault 100T firmware
- * PowerVault 110T firmware
- * PowerVault MD1000 firmware
- * PowerVault MD1120 firmware
- * PowerVault RD1000 firmware

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CRITICALITY
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2 - Recommended

Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will keep your system software current and compatible with other system modules (firmware, BIOS, drivers, and software).

MINIMUM REQUIREMENTS
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The Update Packages support Dell systems running the following Linux operating systems:

- * Red Hat(R) Enterprise Linux(R) (RHEL) WS, ES, and AS(version 4.5) (both x86_32 and x86_64)
- * Red Hat Enterprise Linux 5 server Update 2 (both x86_32 and x86_64)
- * SUSE(R) Linux Enterprise Server (SLES) 9 SP4 (x86_64)
- * SUSE Linux Enterprise Server 10 SP2 (x86_64)
- * VMware(R) ESX Server(TM) version 3.0.3 Update 1 and version 3.5 Update 2
- * Citrix(R) XenServer version 4.2 Dell Edition

NOTE: For the latest information about the various systems and operating systems that Dell Update Packages are supported on, see the "Dell Systems Software Support Matrix". This guide is available on the Dell Support website at "www.support.dell.com" or on the "Dell Systems Management Tools and Documentation" DVD.

Update Packages may also be applied in a pre-operating system environment that uses the Embedded Linux (ELI) environment via the Dell OpenManage(TM) Deployment Toolkit (DTK).

UPDATE PACKAGES: SUPPORTED COMPONENTS
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Update Packages currently do not support all system component types. Dell will continue to make Update Packages available on additional devices in future.

This release of Update Packages supports updates to the devices listed in the following table.

Component Type	Supported Components
BIOS	BIOS
ESM firmware	ESM3, ESM4
DRAC firmware	DRAC III, DRAC III/XT, ERA, ERA/O, DRAC 4, DRAC 5
RAID firmware	PERC 2, PERC 2/Si, PERC 3/Di, PERC 4/Di, PERC 4e/Di, PERC 3/DC, PERC 3/DCL, PERC 3/SC, PERC 3/Si, PERC 4e/DC, PERC 4e/Si, PERC 3/QC, PERC 4/DC, PERC 4/SC, CERC/SATA 6 channel, PERC 5/E, PERC 5/i, SAS 5/i, SAS 5/iR Adapter, SAS 5/E, SAS 6/E, SAS 5/iR, SAS 6/iR, SAS 6/iR Adapter, PERC 6/E, PERC 6/i, PERC 6/i Adapter, CERC6/i
BMC firmware	BMC
SCSI BP firmware	BP
SAS BP	BP
Storage enclosure	PowerVault 220S/221S, PowerVault MD1000, PowerVault MD1120
Tape drives firmware	PowerVault PV100T DDS4, PowerVault PV110T DAT72, PowerVault PV110T LTO1, PowerVault PV110T LTO2, PowerVault PV110T LTO2-L, PowerVault PV110T LTO3, PowerVault PV110T LTO3-HH, PowerVault PV110T LTO4, PowerVault PV110T SDLT320, PowerVault PV110T DLT VS80, PowerVault PV110T DLT VS160, PowerVault PV110T SDLT
Removable disk drive backup firmware	PowerVault RD1000

KNOWN ISSUES
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For all Dell Update Packages

* Do not run other applications while executing Dell Update Packages.

* For firmware Dell Update Packages, an update package will not inventory the device if only a native non-Dell driver is installed. Therefore firmware update packages cannot upgrade a device with a native driver.

* If the following error displays,
"Error while loading shared libraries: libstdc++.so.5:
cannot open shared object file: No such file or directory",
install the compatibility libraries from your Linux distribution.

To install the compatibility libraries, use the following command:

```
"RPM -ih compat-libstdc++-33-3.2.3-47.3.i386.rpm"
```

* When Update Packages stop abruptly due to a power outage or abnormal termination, perform the following steps:

- Remove the lock file.
- Type the following command: "rm -f /var/lock/.spsetup"
- Run the Update Package again.

* If you encounter the message, "This Update Package is not compatible with any of the devices detected on your system", for a supported device, ensure that you have the latest Dell drivers for your system from the Dell Support website at "www.support.dell.com."

* Some distributions of Linux may automatically mount a USB flash drive with the "-noexec" option. This prevents the execution of any file on that drive, including Dell Update Packages. If you are attempting to run a Dell Update Package off of a USB flash drive under Linux, and are experiencing problems, remount the drive without the "-noexec" option, or copy the Dell Update Package to a drive mounted without the "-noexec" option.

Unified Server Configurator (USC) Dell Update Packages (DUPs)

* For the first time, before you attempt to run Driver Package Diagnostics DUPs, you must execute the USC DUP.

* Before running any DUPs need to make sure there are no external devices mounted to /media or /tmp.

* If the operating system is installed from "Operating System Deployment", select "Reboot and Exit" in the USC environment before booting to the operating system. This closes the USC session which is held for 18 hours. If you do not want to enter the USC and select "Reboot and Exit", but still want to execute the DUPs within 18 hours, unplug the power supply of the

system, wait for 10 seconds, and then power on the system.

* Supported devices:

USC, Driver Pack, Diagnostic, iDRAC, Ridgeback

* Supported Operating Systems:

- Red Hat Enterprise Linux 4 - both x86_32 and x86_64
- Red Hat Enterprise Linux 5 - both x86_32 and x86_64
- SUSE Linux Enterprise Server 9
- SUSE Linux Enterprise Server 10
- VMware ESX Server version 3.5
- Citrix XenServer
- ELI

BIOS

* A BIOS update requires enough free physical memory to load the entire BIOS image into physical memory. If there is insufficient free physical memory available on the system to load the BIOS image, the Dell Update Package for BIOS may fail. In this instance, you may attempt running the Dell Update Package immediately after reboot or after adding more memory. If this does not resolve the issue, update the BIOS using the diskette method.

* If the above memory limitation occurs on VMWare ESX Server, the problem is because the console operating system available memory is only 272 MB by default. Increase the console operating system memory to 800 MB temporarily and perform the firmware update. During ESX Server boot up, perform the following steps to increase the available memory:

1. While booting, press 'e' on the VMware ESX line (Grub option display screen).
2. Press 'e' again on the 'uppermem=' line and edit uppermem=819200.
3. Press Enter.
4. Press 'e' on the kernel line (Just below the uppermem line). Edit the kernel line with mem=800M and press "Enter".
5. Press 'b' to boot with these options.
6. Perform the firmware update.

* BIOS update may issue the following kernel messages on the console and in "/var/log/messages":

```
dcd***: disagrees about the version of symbol struct_module
dcd***: Unknown symbol get_user_size
dcd***: Unknown symbol put_user_size
```

Ignore these messages because they do not refer to errors in BIOS update.

ESM firmware, BMC firmware, BP firmware, and DRAC 5 firmware

* Dell Update Packages for BMC, BP, ESM, and DRAC 5 require the OpenIPMI driver to be loaded on your system. The current drivers can be downloaded from the Dell Support website at "www.support.dell.com."

Linux Operating System	OpenIPMI driver version	RPM files
Red Hat Enterprise Linux 4	33.13	"dkms-2.0.13-1.noarch.rpm" "openipmi-33.13.RHEL4-1dkms.noarch.rpm"
SUSE Linux Enterprise Server 9	36.8	"dkms-2.0.13-1.noarch.rpm" "openipmi-36.8.SLES9-1dkms.noarch.rpm"

NOTE: For SUSE Linux Enterprise Server version 10, the OpenIPMI driver that comes with the operating system is sufficient for Dell Update Packages.

DRAC III firmware

* The DRAC III firmware update process may take up to 20 minutes to complete. Do not stop the update process before it completes or your system may become unstable.

* The DRAC III firmware update uses the FTP protocol to perform the update commands. If a firewall is installed in the system, it may cause the firmware update to fail.

DRAC 4 firmware

* If you either install Dell OpenManage(TM) software or start Dell OpenManage services while the RAC firmware update is running, the Update Package will not upgrade the firmware. (144013)

DRAC 5 firmware

* Before updating the DRAC firmware, ensure that the following conditions are met:

- USB is enabled
- IPMI is working properly
- DRAC Virtual Flash is not in use either by the operating system or by any other application

All PERC firmware and all SAS firmware

- * Do not run storage controller update packages if the controller is in use by other applications.

The firmware upgrade may fail if any of the RAID controllers in the system are performing an I/O background task (consistency check, background initialization, rebuild, or reconstruction). Allow the background task to complete before attempting to upgrade the firmware. "Patrol Read" tasks will not affect a firmware upgrade.

- * Linux systems running one or more applications that interact with SCSI devices in certain ways are known to cause a kernel panic situation. Therefore, it is recommended that you stop Dell OpenManage Server Administrator and Dell OpenManage Server Administrator Storage Management Service before running storage controller firmware update packages.

To stop the Dell OpenManage Server Administrator service, run "omconfig system webservice action=stop"

To start the Server Administrator service, run "omconfig system webservice action=start"

To stop the Server Administrator Storage Management Service, run "/etc/init.d/dataeng stop"

To start the Server Administrator Storage Management Service, run "/etc/init.d/dataeng start"

PERC 3 firmware

- * Adaptec PERC firmware update packages may fail to update to versions 2.8 and 2.7 in certain cases. It may not be possible to flash some ROMB controllers to version 2.8 firmware by using the operating system-specific Dell Update Packages. If this issue arises, the only solution is to re-flash the ROMB through the bootable diskette.

NOTE: In such cases, you will be unable to back-flash to version 2.7.x using an Adaptec firmware update package after you upgrade to version 2.8.x using a diskette.

- * Before performing the update on the RAID controller, the Adaptec PERC update packages stop the Dell OpenManage Array Manager and Storage Management Service applications from running. Since these services reserve the controller, the update would fail if they were running. After the update is performed, these

services are restored to their original status.

PERC 4 firmware

- * Firmware updates require a reboot to take effect.
- * PERC 4 update packages may fail if the system has an older version of the Megaraid controller driver installed. To correct the problem, update the Megaraid controller driver to version 2.20.4.5 or later.

PowerVault 220S/221S firmware and PowerVault MD1000 firmware

- * The PowerVault update procedure requires the RAID controller to be in a known good state. If a problem occurs with the RAID controller during the update procedure, and the Update Packages cannot communicate with the PowerVault system, inventory its firmware version, or perform the update. (138462)

PowerVault 220S/221S firmware

- * Stop all input/output to the PowerVault 220S/221S before running the PowerVault 220S/221S firmware update package.
- * Before performing the update on the PowerVault 220S/221S enclosure, note that the PowerVault 220S/221S firmware update packages stop the Array Manager and the Server Administrator Storage Management Service applications if they are running. The cancellation prevents these services from sending SCSI commands to the PowerVault 220S/221S systems during the firmware update. After the update is performed, these services are restored to their original status before running the package.
- * When both cluster nodes are in active mode, the PowerVault 220S/221S firmware download is not supported and may cause unknown effects. The PowerVault 220S/221S firmware update should be run only from the active node of an Active/Passive cluster.
- * If the PowerVault 220S/221S firmware update is interrupted before successful completion, it will show the PowerVault 220S/221S kernel version as a PowerVault 220S/221S firmware version when the PowerVault 220S/221S firmware update package is run again.
- * The PowerVault 220S/221S update package on Red Hat Enterprise Linux may display some of the debug messages generated by the operating system.
- * The PowerVault 220S/221S firmware update package only inventories the primary Enclosure Management Module (EMM) in the enclosure. The

update package may warn that no update is required if the primary EMM is at the current update package version but the secondary EMM is an earlier version and the PowerVault 220S/221S is in cluster or joined modes. Split mode only updates the primary EMM. Using the PowerVault 220S/221S firmware update package to upgrade to the same current version will update all EMMs in the PowerVault 220S/221S.

PowerVault MD1000 firmware

- * Stop all input/output to the PowerVault MD1000 before running the PowerVault MD1000 firmware update package.
- * **WARNING: THE SERVER MUST BE REBOOTED AFTER UPDATING THE FIRMWARE ON MD1000 ENCLOSURES IN ORDER TO MAINTAIN ENCLOSURE MANAGEMENT. ACCESS TO THE ENCLOSURES WILL BE LOST IF THE SERVER IS NOT REBOOTED.**
- * When prompted for reboot after the update, select "Yes".

PowerVault PV100T DDS4 firmware and all PowerVault PV110T firmware (PV110T DDS4, PV110T DAT72, PV110T LTO1, PV110T LTO2, PV110T LTO2-L, PV110T LTO3-HH, PV110T LTO4, PV110T SDLT320, PV110T LTO3, PV110T DLT VS80, PV110T DLT VS160, and PV110T SDLT)

- * Before executing the firmware update, stop all tape backup activity and put all scheduled jobs on hold.
- * After the firmware update is completed, restart your system for the updates to take effect.
- * Note: Tape automation devices are not supported by Dell Update Packages. Disconnect or power off such devices before executing Dell Update Packages.

The tape automation devices are as follows:

1. PowerVault PV120T
2. PowerVault PV122T
3. PowerVault PV124T
4. PowerVault PV128T
5. PowerVault PV130T
6. PowerVault PV132T
7. PowerVault PV136T
8. PowerVault PV160T
9. PowerVault ML6000

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