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DELL(TM) REMOTE ACCESS CONTROLLER (DRAC) 4

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This document contains updated information about the Dell Remote Access Controller 4 (DRAC 4/I and DRAC 4/P).

For more information about DRAC 4, including installation and configuration information, see the "Dell Remote Access Controller 4 User's Guide" and the "Dell OpenManage(TM) Server Administrator User's Guide." These documents are located on the Dell Support website at "www.support.dell.com" or on the "Dell Systems Documentation CD" and the "Dell Systems Management Tools and Documentation DVD."

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CRITICALITY

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3 - Optional

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MINIMUM REQUIREMENTS

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The following subsections list operating systems that are compatible with the Dell Remote Access Controller (DRAC) 4.

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SUPPORTED SYSTEMS

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DRAC 4/I is supported on the following Dell systems:
PowerEdge(TM) 1850, PowerEdge 2800, and PowerEdge 2850

DRAC 4/P is supported on the following Dell PowerEdge systems:
PowerVault(TM) 100, 800, 830, 840, 850, 860, 1800, 6800, 6850,
and R200

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SUPPORTED OPERATING SYSTEMS
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The DRAC 4 is supported on the following operating systems:

- * Microsoft Windows Server(R) 2008 Web, Standard, Enterprise,
and Core Edition (x86)
- * Microsoft Windows Server 2008 Standard, Enterprise,
DataCenter, and Core Edition (x64)
- * Microsoft Windows 2000 Advanced Server with Service Pack 4 (SP4)
- * Microsoft Windows Server 2000 with SP4
- * Microsoft Windows Server 2003 R2 Enterprise, Standard, and Web
Editions with SP2 (32-bit)
- * Microsoft Windows Server 2003 R2 Standard and Enterprise Edition
with SP2 (32-bit x86_64)
- * Microsoft Windows Server 2003 Standard and Enterprise Editions x64
Editions with SP1
- * Microsoft Windows Small Business Server 2003 Standard and Premium
Editions
- * Microsoft Windows Small Business Server 2003 with SP1
- * Microsoft Windows Storage Server 2003 R2 Express and Workgroup x64
Editions (x86_64)
- * Microsoft Windows Vista(R)

NOTE: Microsoft Windows Vista support is limited to managed
console (web-based interface) and Management Station software
(remote racadm CLI).

NOTE: Microsoft Windows Server 2008 is scheduled to be available
in the first half of 2008. For latest information, see
"<http://www.microsoft.com/windowsserver2008/default.mspx>."

- * Red Hat(R) Enterprise Linux(R) WS, ES, and AS (version 3)
(x86 and x86_64)
- * Red Hat Enterprise Linux WS, ES, and AS (version 4)

(ia32 and x86_64)

- * Red Hat Enterprise Linux WS, ES, and AS (version 4) (x86 and x86_64)
- * Red Hat Enterprise Linux WS, ES, and AS (Version 4.5) (x86)
- * Red Hat Enterprise Linux WS, ES, and AS (Version 4.5) (x86_64)
- * Red Hat Enterprise Linux WS and AS (Version 4.5) (ia64)
- * Red Hat Enterprise Linux (version 5) (x86 and x86_64)

NOTE: DRAC 4 does not support the XEN kernel option of Red Hat Enterprise Linux (version 5).

- * SUSE(R) Linux Enterprise Server (SLES) 9 with SP3 (x86_64)
- * SUSE Linux Enterprise Server 9 with Update 2 and 3 (x86_64)
- * SUSE Linux Enterprise Server 10 with Update 3 (x86_64) Gold

NOTE: DRAC 4 does not support the XEN kernel option of SLES 10.

NOTE: See the "Dell Systems Software Support Matrix" located on the Dell Support website at "www.support.dell.com" for specific operating system support for each platform listed in "Supported Systems."

SUPPORTED WEB BROWSERS

- * Microsoft Internet Explorer(R) 6.0 (32-bit) with SP2 for Windows XP and Windows 2003 R2 SP2 only.
- * Microsoft Internet Explorer 7.0 for Windows Vista, Windows XP, and Windows 2003 R2 SP2 only.

NOTE: When you are using Microsoft Internet Explorer on systems running Microsoft Windows, to view localized versions of the DRAC 4 Web-based interface, open the Windows "Control Panel", double-click the "Regional Options" icon, and select the desired locale from the "Your locale (location)" drop-down menu.

- * Mozilla Firefox 1.5 (32-bit) on SUSE Linux Enterprise Server (version 10) only.
- * Mozilla Firefox 2.0 (32-bit) on supported Red Hat Enterprise Linux operating system.

NOTE: See the "Dell Systems Software Support Matrix" located on the Dell Support website at "www.support.dell.com" for the latest information on supported web browsers.

NOTE: Localized Keyboard support requires JVM 1.4.2 on Red Hat Enterprise Linux configurations. DRAC 4 does not support JVM 1.5 (141766)

Virtual Media requires Internet Explorer on a Windows-based management workstation, or Mozilla Firefox on a Red Hat Enterprise Linux-based management workstation.

NOTE: All browsers must have Sun(TM) Java VM Plug-in 1.4.2 or later installed to use the DRAC 4 Console Redirection feature. The Java cache must be cleared and disabled from Java plug-in control panel. On the Windows operating system, perform the following steps to clear and disable the Java cache:

1. Click "Settings" -> "Control Panel" -> "Java Plug-in."
2. Click the "Cache" tab.
3. Click "Clear."
4. Deselect the "Enable Caching" check box to disable the cache.
5. Click "Apply."
6. Close and restart the browser.

NOTE: When upgrading the DRAC 4 firmware, temporary Internet files should be deleted. When using Internet Explorer on systems running Microsoft Windows, perform the following steps to delete the temporary files:

1. In Internet Explorer, on the "Tools" menu, click "Internet Options."
2. On the "General" tab, click "Delete Files."
3. Click "OK" on the next message to confirm.

NOTE: When you are using Internet Explorer on systems running Microsoft Windows, to view localized versions of the DRAC 4 Web-based interface, open the Windows Control Panel, double-click the Regional Options icon, and select the desired locale from the Your locale (location) drop-down menu.

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SUPPORTED FIRMWARE VERSIONS
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RAC Firmware Version: 1.60
RAC IDE Option ROM version: 341027

RELEASE HIGHLIGHTS
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- * Added support for Red Hat Enterprise Linux (version 5) (x86 and x86_64)
- * Added support for Microsoft Windows Server 2008

- * Added Global Catalog Server and Domain Controller objects in Active Directory(R) configuration group (CLI support only)
- * Support for a new macro — <RightCtrl>+<ScrLk><ScrLk> key code sequence to initiate a crash dump of the Microsoft Windows operating system. For more information, see the Microsoft Knowledge Base at: <http://support.microsoft.com/kb/256986/>
NOTE: You must keep the <RightCtrl> key pressed during the additional keystrokes.
- * DRAC 4/P support on the Dell PowerVault 100.
- * Added fix for Remote Denial of Service for SSH service.

 KNOWN ISSUES FOR DRAC 4
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The following subsections list the known issues regarding the implementation and operation of the DRAC 4:

- * When connecting to the DRAC 4 VKVM console, you may receive a warning message that says the DRAC's hostname does not match the certificate host name. DRAC cards ship with a default server certificate, which has the same hostname for every card. While customers can choose to trust this default certificate, it is recommended that customers generate a CSR (certificate signing request) with the correct hostname of the DRAC card, and sign it with a trusted CA (certificate authority). This signed certificate can be uploaded to the DRAC card, which will prevent the hostname mismatch warning message from popping up. For more information, refer to the DRAC 4 User's Guide. (110258)
- * When using the DRAC 4 command to restart or shut down a system running Microsoft Windows Server 2003 R2 that has the R2 IPMI driver installed, multiple events will be logged in the:
 - Hardware Events bucket in Event viewer
 - Hardware Log in Server Administrator and
 - System Event Log (SEL)

These events are used by the Windows IPMI driver to store the shutdown comment that describes why the system was shut down or restarted. You can ignore these messages and can remove them by clearing the SEL manually. You can prevent these events from being logged in the SEL by uninstalling the Microsoft IPMI driver using the "rundll32 ipmisetp.dll, RemoveTheDevice" command in the command prompt. You can reinstall the driver using the "rundll32 ipmisetp.dll, AddTheDevice" command. (44807)

- * You must disable the Internet Explorer Enhanced Security Configuration component to use the Virtual Media Active X Plugin on Microsoft Windows Server 2003 Internet Explorer. (24901)

- * When adding Active Directory Universal Groups from separate domains, you must create an Association Object with Universal Scope. The Default Association objects created by the Dell Schema Extender Utility are Domain Local Groups only and will not work with Universal Groups from other domains. (33658)
- * The Virtual Floppy is not available during an Operating System installation that uses either the virtual CDROM or the local CDROM.
- * The Microsoft Windows 2003 R2 operating system may show the following events in the System Event Log (SEL) when a graceful shutdown event, OS runtime stop event, or OS OEM event occurs:
 - System Event: Unknown Sensor type sensor unknown sensor status
 - System Event: Unknown Sensor status
 - System Event: OS watchdog unknown sensor status
- * In previous DRAC 4 releases, the DRAC 4 sometimes stopped booting, which then required that you re-install the DRAC firmware using the firmware repair diskettes. This issue has been resolved in this release and should no longer occur. (153802)
- * The DRAC 4 does not check the static IP address and netmask for validity, other than verifying the values are between 0 and 255, and that the result is not 0.0.0.0 or 255.255.255.255. (152586)
- * When upgrading the DRAC 4 firmware from version 1.0, the `cfgDNSRacName` property in the `cfgLanNetworking` group cannot contain an underscore ("_"). You can substitute a different character in the property, such as a dash ("-"), to perform the upgrade. An example of a valid `racadm` command to set this property is:

`racadm config -g cfgLanNetworking -o cfgDNSRacName RAC-xxxx`

(151550)
- * An Active Directory security certificate dated with a GMT timestamp will be valid only after the RAC local time has passed this timestamp value. The RAC only recognizes local time. (150993)
- * The DRAC 4 software requires APIC mode on the server. PIC mode is not supported. (149034)
- * When a user makes the initial connection to the DRAC 4 via SSH but has not yet authenticated, other users are prevented from connecting to the single DRAC 4 SSH session until the initial connection is dropped or after the timeout. The initial connection is dropped after a failed login attempt or in approximately 30 seconds if authentication is not attempted.

(150493)

- * When connecting to a remote DRAC 4 using a Firefox Web browser on a Red Hat Enterprise Linux 5 (x86_64) or SUSE Linux Enterprise Server 9 with Update 3 (x86_64) or 10 (x86_64) Gold, the Virtual Media feature may not be available. The browser displays the error:

"Virtual Media Plug-in is not installed or running."

This is because the browser is detecting the 64bit OS rather than the Firefox bit-ness. Since the Virtual Media plugin is not supported on a 64-bit browser this check will prevent the install of the Virtual Media plugin.

Perform the following steps to manually install the plugin:

1. Download the 32-bit version of Firefox and install it on your home directory.
2. From the command prompt go to the location where you have installed Firefox and launch Firefox from there.
3. Log in to DRAC 4 and navigate to the "Properties" page.
4. Change the Web address in the browser window from "https://<DRAC4-IP-address>/cgi/main" to "https://<DRAC4-IP-address>/rac4vm.xpi," and press Enter.

Firefox prompts you with an "Opening rac4vm.xpi" dialog, allowing you to save the file to your local file system.

5. Click "OK" and save the file to a temporary location (for example: /tmp/rac4vm.xpi).
6. Log out of the DRAC 4, and then specify the Web address of the "rac4vm.xpi" file (for example: file:///tmp/rac4vm.xpi).
7. Firefox presents you with the "Software Installation" dialog: Click the "Install" button to continue.
8. After installation completes, close the browser, and delete the "/tmp/rac4vm.xpi" file.
9. Now, restart the browser, log in to DRAC 4, and navigate to the Virtual Media link to use the Virtual Media features.

(150565)(150820)(110664)

- * The wildcard option "*" in the command "racadm getssninfo -u *" may require quotes in some operating system environments, for example: racadm getssninfo -u "*"

(145872)

- * The "Boot Once" feature allows DRAC 4 to boot from a remote floppy or a CDROM only once. When this feature is used, the DRAC 4 will drop the client connection to the Virtual Media plug-ins on the second system boot. This feature is useful for operating system installation, where "bootstrap" media is typically used to copy the new operating system to the target system.

A new object named "cfgVirtualBootOnce" has been added to the Virtual Media configuration group "cfgRacVirtual." This object can be set to TRUE or FALSE. The default state is FALSE. When the state is TRUE, the DRAC 4 firmware will monitor system boots and drop the client Virtual Media connection on the second system boot. This will cause the system to boot only once from a bootable remote floppy/CD. On the second boot the value of "cfgVirtualBootOnce" will be reset to FALSE.

- * The DRAC 4 Web-based interface does not display the connection status of the Command Line Interface Virtual Media. (145750)
- * While generating a Certificate Signing Request (CSR) (using "racadm sslcsrgen -g"), the local racadm interface on the host becomes unavailable. Use remote racadm or the racadm available on serial or telnet command lines instead. (128951)
- * A device that is present on the system, but which is currently locked for exclusive use by another application is not selectable for use as Virtual Media. To make the device available, the other application must be closed. When the application is closed, click the "Refresh" button on the Virtual Media page to be able to select the device entry. (140665)
- * DDNS events can be found in the trace log. This log is viewable by using the "gettracelog" command on the Web-based interface Diagnostics page or by using "racadm gettracelog." (142025)
- * The DRAC 4 Managed Node software must be installed for accurate population of the "Hostname," "OS Name," and "OS Type" information fields in the Web-based interface and racadm getsysinfo command. (138737)
- * The DRAC 4 Console Redirection remains active even after the GUI has timed out. (140522)
- * An expired SSH session will return the error message "Warning: Idle Timeout Expired" only after a carriage return has been entered. You will then be returned to the shell from which SSH was invoked. (139801)
- * If there is a video corruption while using Console Redirection, you can refresh the Console Redirect screen by clicking "Refresh" on the Console Redirect window. You may need to click "Refresh" multiple times to correct the video corruption problem. (140915)

- * The last user in the "cfgUserAdmin" group cannot be deleted.
- * Virtual Media supports single session/single track, CD/DVD/image data. (140403)
- * The DRAC 4 will accept a Virtual Media connection to a disabled virtual drive. This allows you to connect to the system and enable the virtual drive for the next boot (the enable/disable feature for Virtual Media does not take effect until the next boot). (144613)
- * Manually removing or modifying either the A record or TXT record associated with the "cfgDNSRacName," via the DNS server administrative interface will cause unexpected results.
- * When the RAC name ("cfgDNSRacName") is not the default name ("RAC-<service tag>") and the firmware repair utility diskettes are used to update the DRAC 4, two RAC names (the original and the default) with the same IP address may be seen on the DNS server. Other DRAC 4 firmware update methods avoid this behavior.
- * The RAC will reset its NIC every 30 seconds when the network is idle, to guarantee operational physical hardware mechanisms.
- * The DRAC 4 DDNS implementation requires that DNS servers be configured to allow non-secure updates.
- * If the network bandwidth is low and Console Redirection is required, the key repetition rate should be set to slow on the server.
- * The PuTTY SSH client closes the connection when "gettracelog," "getsel," "connect com2," or "connect -h com2" is executed. This is a PuTTY client issue. The OpenSSH client works correctly.
- * When a telnet login is invalid, a single session is counted towards the maximum of four sessions for approximately one minute after the invalid login attempt. If there are already three valid sessions, this invalid session will prevent further login attempts for that minute.
- * If you run the Nessus Vulnerability test on the DRAC 4, you may see the following vulnerabilities reported:
 - Nessus reports HTTP (80/tcp) vulnerability as: "The remote proxy is vulnerable to format strings attacks when issued a badly-formed user name. This flaw allows an attacker to execute arbitrary code on this host."

This report is displayed due to all HTTP requests (legal or not) being forwarded by the DRAC 4 to HTTPS. It is not a security issue on the DRAC 4.

- Nessus reports HTTP (80/tcp) vulnerability as: "It may be possible to make a web server execute arbitrary code by sending it a too long URL after/jsp. Ie: GET /jsp/AAAA.....AAAAA."

This report is displayed due to all HTTP requests (legal or not) being forwarded by the DRAC 4 to HTTPS. It is not a security issue on the DRAC 4.

- Nessus reports HTTP (80/tcp) vulnerability as: "It was possible to disable the remote IIS server by making a specially formed PROPFIND request."

This report is displayed due to all HTTP requests (legal or not) being forwarded by the DRAC 4 to HTTPS. It is not a security issue on the DRAC 4.

- Nessus reports HTTPS (443/tcp) vulnerability as: "The remote web server is vulnerable to a format string attack. If it is ePolicy Orchestrator, an attacker may use this flaw to execute code with the SYSTEM privileges on this host."

The DRAC 4 returns Error 414 with an unsupported long format string in the GET operation. This operation is correct and should not cause any security vulnerability.

- Nessus reports syslog (514/udp) vulnerability as: "WinSyslog is an enhanced syslog server for Windows. A vulnerability in the product allows remote attackers to cause the WinSyslog to freeze, which in turn will also freeze the operating system on which the product executes."

Since the DRAC 4 does not support WinSyslog port 514, the Nessus plug-in gets confused. This report is not a security issue on the DRAC 4.

- * The DRAC 4 racadm, version 4.0.0, does not support management of remote ERA/MC DRAC configurations. ERA/MC configurations should continue to be managed by the racadm utility that officially supports the ERA/MC configuration.
- * DRAC 4 allows CA Enterprise Root Server and all user type certificates to be uploaded into the DRAC 4 Web server, which causes client Web browser SSL authentication failure. To avoid this error, upload only the X509 Web Server-type certificates into the DRAC 4 (select only the Web browser type in Microsoft certificate generating utility).
- * If you are using Minicom as the DRAC 4 serial terminal and have the Minicom status line enabled, resize the window to 80 x 26. Resizing allows for 26 lines of text and one line of Minicom status. The default Minicom command key is "<Ctrl><A>." If you need to use "<Ctrl><A>" to enter the SCSI BIOS setup screen, redefine the Minicom control key from the "Screen and Keyboard Settings" menu.

- * Server Administrator registers DRAC 4 on DNS if you click the "Register DRAC 4 on DNS" check box in the Configuration Tab Network page. This action deactivates the following controls: "DNS DRAC 4 Name," "Use DHCP DNS Domain Name," and "DNS Domain Name."

If the "Use DHCP DNS Domain Name" control is activated, the DHCP DNS Domain Name is used to register the DRAC 4 on DNS. Else, the DNS entered in the "DNS Domain Name" is used.

- * The DNS DRAC Name is a string of up to 63 alphanumeric ASCII characters or dash (-). The DRAC 4 web-based interface only allows the DNS DRAC 4 Name field in the "Network Configuration" page to be set with values smaller than 63 characters. The DNS Domain Name is a string of up to 254 alphanumeric ASCII characters, dot(.) or dash(-). This name cannot begin with a dot. The DRAC 4 web-based interface only allows the DNS Domain Name field in the "Network Configuration" page to be set with values smaller than 80 characters. (140875)
- * Any DRAC reset while performing a firmware update will cause the update to fail. A DRAC reset can be performed as part of various diagnostic tests. It is best not to run other applications while performing any firmware update. In most cases, you can simply run the DRAC firmware update again and it will succeed. (63462)
- * Supported video modes for use with DRAC console redirection are described in the DRAC 4 User Guide. The maximum resolution supported is 1024x768 pixels.

Text console video modes are expressed in characters rather than pixels, such as 80x25. Higher resolutions, such as 132x43, require an effective pixel resolution greater than the 1024x768 and are not supported. The exact pixel resolution of a text mode is determined using a combination of values including parameters the font used and the character width and height of the display mode selected. The recommended text mode for use with DRAC console resolution is 80x25. (71716)

- * When typing on the remote console, multiple characters appear on one keystroke, if a DRAC card is running on a system having the SUSE Linux Enterprise Server operating system. This is because the SUSE Linux default keyboard repeat rate was set too low. This is the time period that the operating system allows before it starts entering multiple keystrokes. By default it was set to the lowest value of 250 ms. If it is set to 400 ms, the runaway keyboard problem goes away.
- * To change the keyboard delay with SUSE Linux Enterprise Server operating system, do the following:

1. From the main K menu (Circular green icon with the SUSE trade mark), select "Control Center."

2. From the "Control Center" menu, select "Peripherals."
3. From the "Peripherals" menu select "Keyboard."
4. The keyboard control menu permits changing keyboard repeat delay (660 msec default) and Rate (25/s default). (75032)

* After installing Dell Remote Access Controller 4 software on Windows Server 2003 x64 Editions, the device manager may show a warning state (yellow bangs) for two devices. To change the state of these devices to Normal, perform the following steps:

1. Right-click the device and choose "Update driver."
2. In the "Hardware Update Wizard" you are provided the option "Can Windows connect to Windows Update to search for software? Choose "No, not at this time" and click "Next".
3. At the prompt "What do you want the wizard to do?" choose "Install from a list or specific location (Advanced)" and click "next".
4. At the prompt "Please choose your search and installation options" select "search for the best driver in these locations" and check "Include this location in the search:".
5. Browse for the selected driver in the /RAC4 path, typically "c:\program files (x86)\dell\sysmgmt\rac4\rac4ser.inf". The driver will load and the device will be identified as RAC PCI function.
6. Click on "finish" to complete the Hardware update.

Repeat the same steps for the other device with the warning state. (32223)

* When a DRAC console redirection has opened a session on the same system locally, then you will have infinite occurrences appear. To avoid this do not try to open a DRAC console redirection session to the system locally. (85029)

* The Virtual Media page via the GUI represents the current status of that particular GUI session. This does not show if there is already an existing Virtual Media session active via another GUI session or the VM-CLI tool (racvmcli). If a connection is attempted in such a scenario, the connection will fail.

Likewise if a Virtual Media session is already established via the GUI, an attempt to connect via the VM-CLI tool will result in a failed connection error message. (106508)

* In Windows Vista, if the Internet Explorer Protected Mode is "ON", then you will not be able to use any of the drives

available on the Virtual Media page in the GUI to establish a Virtual Media session. This is due to additional security by the browser to prevent unwanted execution of code via the browser using elevated privileges. For more information, refer to the document from Microsoft at the following web site:

<http://www.microsoft.com/downloads/details.aspx?FamilyID=6fb28358-68d9-43e9-b574-6a0d377bba34&DisplayLang=en>

(109414)

- * Media cannot be changed when booting from Virtual Media. For example, you must not change the CD in the Management Workstation virtualized CD drive while the Managed Node is in the BIOS setup screen. This will result in unexpected behavior. (95727)
- * The Browsers <Ctrl><N> functionality to open a new browser instance on the DRAC OOB GUI is not supported. When using Internet Explorer, if you open multiple instances of the DRAC OOB GUI on the same client (does not need to be using <Ctrl><N>), a log out from one of the session will result in log out of all the other GUI sessions. On Linux operating system's using Firefox browser if you open multiple instances of the DRAC OOB GUI on the same client (does not need to be using <Ctrl><N>), a log out from one of the sessions will result in log out of all the other GUI sessions. This is because the browsers shares the same cookies of the other browser instances. (89474)(91742)
- * When attempting to connect two or more DRAC Console Redirection (VKVM) sessions at the same time, depending on the race condition a session request could be sent down before the OOB GUI gets a response from a newly created session and may end up with more than two DRAC Console Redirection (VKVM) sessions. (96239)
- * CA Certificates having a validity period of more than 43 years cannot be uploaded into the DRAC.

 KNOWN ISSUES FOR MANAGED SERVER OPERATING SYSTEMS
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The following sections provide additional information about known issues with operating systems.

=====
 ISSUES FOR NETWARE OPERATING SYSTEM
 =====

- * When using local racadm to configure a DRAC 4 in NetWare, if the DRAC 4 PCI interrupt is shared with other PCI devices the spurious interrupt count may increase. This known issue is not known to cause any abnormal system behavior. The following message may be seen on the console:

WARNING: 200 spurious (unclaimed) interrupt(s) detected on interrupt 24. Spurious interrupt alerts occur when an interrupt is not claimed by any of the registered handlers for that interrupt. (130450)

* When a remote "Reset," "Power Off," or "Power Cycle" is issued through the DRAC 4 on NetWare, some NetWare applications may require user interaction to close application windows. If this action is necessary, you should use the DRAC 4 Console Redirection to manually close the application windows to allow NetWare to shut down.
(74125)

ISSUES FOR LINUX OPERATING SYSTEM

* Servers running Red Hat Enterprise Linux version 4 or SLES 10 should use the SCSI-IDE driver rather than the native IDE driver to avoid system errors when the DRAC 4 is reset. To do this, add "hdf=ide-scsi" on the grub command line in /boot/grub/grub.conf (if "hdf" is your virtual CD drive). Verify that "hdf" is your virtual CD drive by checking /proc/ide/hdf/model. Other virtual CD drive names include "hde". The command line may look like this before it is modified:

```
kernel /vmlinuz-2.6.9-5.Elsmp ro root=/dev/md2 rhgb quiet
```

After modifying the command line, the line should look like this:

```
kernel /vmlinuz-2.6.9-5.Elsmp ro root=/dev/md2 rhgb quiet hdf=ide-scsi
```

The SCSI layer will take the virtual CD-ROM device off-line when the RAC card is reset. To bring it back online, issue the following two commands:

```
echo "scsi remove-single-device 4 0 0 0" >/proc/scsi/scsi  
echo "scsi add-single-device 4 0 0 0" >/proc/scsi/scsi
```

"4 0 0 0" represents the host, channel, ID, and lun of the virtual CD drive. This is available in /proc/scsi/scsi, even after the device is off-line. The "0 0 0" should not change, but the "4" may change depending on how many other SCSI hosts are present in the system. (141372)

ISSUES FOR RED HAT ENTERPRISE LINUX OPERATING SYSTEM

* Servers running Red Hat Enterprise Linux version 4 will log an informational message in /var/log/messages when the virtual CDROM is enabled and there is no connection to a virtual media client. No corrective action is needed. The warning message will look like this example:

Dec 1 10:16:28 r2p2 kernel: Device not ready. Make sure there is a disc in the drive

- * In modular Red Hat Enterprise Linux kernels, USB flash drives require the sd_mod (scsi disk module) to be loaded. If a Red Hat Enterprise Linux-based Virtual Media client system has no SCSI disks, the sd_mod may not load during startup and will require manual loading. To load sd_mod manually, type this command as the root user:

```
modprobe sd_mod
```

```
(140798)
```

- * When the DRAC 4 resets, the virtual drives disappear. On Red Hat Enterprise Linux version 4, hot plug IDE is not supported - the system may hang when a remount of the virtual drives is attempted. Do not attempt to remount virtual drives after a firmware update; you must restart the server to regain access to the drives.
- * When using Console Redirection on a managed system running Red Hat Enterprise Linux, the focus (cursor moved back over an object) follows the cursor. Occasionally, the text windows in Console Redirection lose focus. Before attempting to type in a text window in a Console Redirection window, click the mouse in the text window's space bar or top menu bar to ensure that your target text window has the focus on the correct window or application that you are attempting to use.
- * Red Hat Enterprise Linux (version 4) operating system requires an updated driver (ide-scsi) for the virtual CD to work. This driver is available on the "Dell Systems Service and Diagnostics Tools" CD.

```
#####  
KNOWN ISSUES FOR DOCUMENTATION  
#####
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This section provides additional information about known issues with the DRAC 4 Firmware version 1.60 User's Guide.

- * On page 20, the list of supported DRAC 4/P systems does not include PCI slot information. The DRAC 4/P is supported on the following systems and PCI slots:

- PowerEdge 800 (PCI slot 4)
- PowerEdge 830 (PCI slot 4)
- PowerEdge 840 (PCI slot 4)
- PowerEdge 850 (PCI slot 4)
- PowerEdge 860 (PCI slot 4)
- PowerEdge 1800 (PCI slot 4)
- PowerEdge 6800 (PCI slot 6 or 7; Dell recommends using PCI slot 7)

-PowerEdge 6850 (PCI slot 6 or 7; Dell recommends using PCI slot 7)

- * On page 218, the second setrac example which states "The UTC time and managed system name are..." should read "The managed system name is..."
- * In Chapter 5 section "Using Active Directory to Log In to the DRAC 4", the parenthetical fragment "where username is an ASCII string of 1-256 bytes" should read "where "<domain>/<username>" is an ASCII string of 1-254 bytes."
- * In Chapter 2 section "Registering the DRAC Host Name With DNS Using DHCP", the note on page 29 reads as follows: "When you configure the DRAC, the DHCP server must also be configured to perform the DNS database update."

If the DRAC is configured to register the DRAC Host Name with DNS using DHCP ("cfgDNSRegisterRac" object value to 0 and "cfgNicUseDhcp" object value to 1), this note means that the DHCP must be configured to have the "Dynamically update DNS A and PTR records for DHCP clients that do not request updates" option enabled and a minimum of Option 15 (DNS Domain Name) added to the specificDHCP scope.

Be aware of the following behaviors when configuring the DRAC:

- If the DRAC is setup with "cfgDNSRegisterRac=0" and "cfgNicUseDhcp=1" with NO scope options added and the "Dynamically update DNS A and PTR records for DHCP clients that do not request updates" NOT selected, the DHCP database will properly show the host name of the DRAC but the DDNS functionality will NOT work.
- If the DRAC is setup with "cfgDNSRegisterRac=0" and "cfgNicUseDhcp=1" with NO scope options added and "Dynamically update DNS A and PTR records for DHCP clients that do not request updates" IS selected, the DHCP database will properly show the host name of the DRAC but the DDNS functionality will NOT work.
- If the DRAC is setup with "cfgDNSRegisterRac=1" and "cfgNicUseDhcp=1" with NO scope options added and "Dynamically update DNS A and PTR records for DHCP clients that do not request updates" NOT selected, the DHCP database will NOT properly show the host name of the DRAC but the DDNS functionality will work.
- If the DRAC is setup with "cfgDNSRegisterRac=0" and "cfgNicUseDhcp=1" with scope option 15 added and "Dynamically update DNS A and PTR records for DHCP clients that do not request updates" NOT selected, the DHCP database will properly show the host name of the DRAC but the DDNS functionality will NOT work.
- If the DRAC is setup with "cfgDNSRegisterRac=0" and "cfgNicUseDhcp=1" with scope option 15 added and "Dynamically update DNS A and PTR records for DHCP clients that do not request

updates" IS selected, the DHCP database will properly show the host name of the DRAC and the DDNS functionality will work.

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