

#####

DELL(TM) ONLINE DIAGNOSTICS(OLD) VERSION 2.18 README

#####

NOTE: This readme provides information about Dell Online Diagnostics version 2.18.

For the latest version of the User's Guide and Readme documentation, go to the Dell Support website at "support.dell.com/manuals", then click Software>Systems Management>Dell Online Diagnostics.

For issues mail to Support_OnlineDiagnostics@dell.com

#####

TABLE OF CONTENTS

#####

This file contains the following sections:

- * Criticality
- * Minimum Requirements
- * Release Highlights
- * Setup
- * Installation/Uninstallation Requirements
- * User Notes
- * Known Issues
- * Supported Devices

#####

CRITICALITY

#####

3 - Optional

#####

MINIMUM REQUIREMENTS

#####

This section provides information about the minimum requirements for using Online Diagnostics.

=====

SUPPORTED SYSTEMS

=====

The following Dell PowerEdge systems are supported:

* SC420, SC430, SC1420, SC1425, SC1430, SC1435, SC440, 800, 830, 840, 850, 860, 1800, 1850, 1855MC, 2800, 2850, 6800, 6850, 1900, 1950, 1955, 2900, 2950, 6950, 2970, R805, M600, M605, T105, R900, R200, T605, R905, R300, T300, M805, M905, T100, R610, R710, T610, M610, M710, T410, R410, T710, T110, T310, R210, R510, R810, R910, M910, R310, R815, C1100, C1100 MLK, C2100, C6100, C6100 MLK, R715, M610x, M710HD, R415, R515, R210-II, T110-II and M915.

The following Dell PowerVault (NAS) Systems are supported:

* 100, 500, 600, NX1950, NX300, NX3000, DL2000 and DL2100.

The following Dell EqualLogic Systems are supported:

* DX6000 and DX6004S.

SUPPORTED OPERATING SYSTEMS

Microsoft Windows:

* Microsoft Windows Server 2008 Standard, Enterprise, and Datacenter (x64) R2 editions

* Microsoft Windows Server 2008 Core Standard, Enterprise, and Datacenter (x64) R2 editions

* Microsoft Windows Server 2008 Web, Standard, and Enterprise (32-bit x86) SP2 editions

* Microsoft Windows Server 2008 Core Standard and Enterprise (32-bit x86) SP2 editions

* Microsoft Windows Server 2008 Standard, Enterprise, and Datacenter (x64) SP2 editions

* Microsoft Windows Server 2008 Core Standard, Enterprise, and Datacenter (x64) SP2 editions

* Microsoft Windows Storage Server 2008 Express, Workgroup, Standard, and Enterprise editions

* Microsoft Windows Small Business Server 2008 Standard and Premium editions

* Microsoft Windows Server 2003 Web, Standard and Enterprise (32-bit x86) editions with SP2

* Microsoft Windows Server 2003 Standard, Enterprise, and Datacenter (x64) editions with SP2

* Microsoft Windows Server 2003 R2 Standard and Enterprise (32-bit x86) editions with SP2

* Microsoft Windows Server 2003 R2 Standard, Enterprise, and Datacenter (x64) editions with SP2

- * Microsoft Windows Small Business Server 2003 R2 Standard and Premium editions with SP1 and SP2
- * Microsoft Windows Server 2008 Standard, Enterprise, and Datacentre (x64) R2 SP1 editions
- * Microsoft Windows Essential Business Server 2008(x64)

GNU/Linux:

- * SUSE Linux Enterprise Server 11 with SP1(x86_64)
- * SUSE Linux Enterprise Server 10 with SP3(x86_64)
- * Red Hat Enterprise Linux 6 server (x86_64)
- * Red Hat Enterprise Linux 5 server (Update 5) (x86_32)
- * Red Hat Enterprise Linux 5 server (Update 5) (x86_64)
- * Red Hat Enterprise Linux 5 server (Update 4) (x86_32)
- * Red Hat Enterprise Linux 5 server (Update 4) (x86_64)
- * Red Hat Enterprise Linux 5 server (Update 3) (x86_32)
- * Red Hat Enterprise Linux 5 server (Update 3) (x86_64)

Virtualization:

- * VMware ESX 4.0 server (Update 1)
- * VMware ESX 4.0 server (Update 2)

=====

DIAGNOSTIC REQUIREMENTS

=====

* 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 the "Dell Systems Management Tools and Documentation" DVD to install Intel PROSet or you can download Intel PROSet from the Dell Support website at "support.dell.com". Intel PROSet is listed under "Intel PRO Family of Adapters". See the "Dell Systems Management Tools and Documentation" DVD for more information.

#####

RELEASE HIGHLIGHTS

#####

* Support for the following Dell systems: R210-II, T110-II and M915.

SETUP
#####

* On Enterprise Linux operating systems (Red Hat, SUSE or VMware), unzip the tar.gz file to a desired location. The extracted files contain an install script (install.sh) and some Red Hat Package Manager (RPM) packages. Install the RPM packages using install.sh.

srvadmin-hapi component fails to install if your system does not have the minimum version of OpenIPMI required by srvadmin-hapi.

If IPMI is supported on your system, install OpenIPMI from the System Management CD (by running ./srvadmin-openipmi.sh from srvadmin/linux/supportscripts directory).

You can also download OpenIPMI from the Dell Support Website at "support.dell.com".

All the files needed to run Online Diagnostics are extracted to the default installation directory, /opt/dell/onlinediags. In the onlinediags directory, run startDiags.sh from an X session to launch the GUI application.

To uninstall the application, run uninstall.sh found in the install directory.

NOTE: Installing srvadmin-hapi or srvadmin-omilcore separately (using rpm command) fails on all PowerEdge SC platforms. Some SC platforms like SC420, SC430, and SC1420 do not support IPMI. Memory and Dell Remote Access Controller version 5 (DRAC 5) diagnostics are unavailable on those systems.

* On Windows operating systems, launch the "exe" package downloaded from the Dell Support Website at "support.dell.com" or from the "Dell Systems Management Tools and Documentation" DVD. Choose a directory where you want the extracted files to reside. You can run the GUI from Windows Start menu."

* To run the application in CLI mode while using both Microsoft Windows and Red Hat Enterprise Linux operating systems, run pediags from /oldiags/bin in the installation directory.

Additionally, on Windows operating systems click Start -> Programs -> Online Diagnostics 2.18 -> Online Diagnostics CLI to launch the CLI console.

INSTALLATION/UNINSTALLATION REQUIREMENTS
#####

* The Online Diagnostics GUI, which is a 32-bit application, does not function on Red Hat Enterprise Linux x86_64 systems if Compatibility Arch Support packages are missing.

When you launch Dell Online Diagnostics on your Red Hat Enterprise Linux x86_64 system, the following message may be displayed:

"Compatibility Arch Support package(s) [gtk, pango, and redhat-artwork] is not installed on this system.

For details on installing the package(s) please refer to the README file."

To resolve the issue, perform the following steps:

1. Run Red Hat Package Management Utility ("redhat-config-packages")
2. Select the "Compatibility Arch support" checkbox in the "Package Management" window and click "Details".
3. A new window ("Compatibility Arch Support Details") is displayed.
4. Make sure the following packages are selected for installation from the new window and click "Close":
gtk, pango, and redhat-artwork.
5. Click the "Update" button in the "Package Management" window.

* Dell Online Diagnostics installation requires a minimum free space of 40 MB on your system drive (C: on Windows or /opt on Linux).

* Dell Online Diagnostics uninstallation requires a minimum free space of 40 KB on your system drive.

USER NOTES
#####

This section provides information to help enhance your experience with Online Diagnostics, in particular, implementations and environments.

* For a complete list of hardware devices that Online Diagnostics supports, see the "Dell Online Diagnostics User's Guide."

* CD/DVD tests are not supported on Virtual CD devices.

* You need Administrator privileges on your operating system to run diagnostics tests using Online Diagnostics.

* Do not extract and copy this application to another directory for execution purposes. Running this application on a read-only file system is also not supported.

* Online Diagnostics is designed to diagnose problems on individual systems. Problems that occur on the network level are not addressed unless the problem resides with a NIC on a single system.

* The hard drive diagnostics are designed to run as low-priority background tasks to limit the effect of their activity on other hard-drive I/O activity. It is recommended that you limit drive activity while you are running the hard-drive diagnostics. The diagnostics may run slowly or even stop when other hard-drive I/O activity is running simultaneously. The diagnostics resume when the hard-drive I/O activity decreases.

* Online Diagnostics runs concurrently with all the other applications that are running on the system being tested. As a result, additional system load occurs and could impact system and

application performance. If you are running critical applications that require rapid response or consume significant system resources, take appropriate precautions before running diagnostics. Close all non-essential applications and run diagnostics only during non-peak hours of system use.

- * Running multiple instances of Online Diagnostics is not supported.
- * Ensure that only Dell-supported USB devices are present in your system before running Online Diagnostics. Disconnect any unsupported devices, if they are present. See the "Online Diagnostics User's Guide" for a complete list of supported devices.
- * An OHCI Controller limits the amount of power supplied to a bus-powered hub. If the bus-powered hub has a large number of devices attached to it, the OHCI Controller does not configure them for usage and declares the particular hub as unknown. As a result, your operating system too does not detect the over current condition and reports the hub as an unknown device. An EHCI controller, however, provides sufficient power to such a hub and in doing so it gets information about the over current condition. The operating system detects the over current condition and reports it properly.
- * On unsupported configurations, the memory device status is not shown, and the Memory Status Test is unavailable.
- * The Original Code (hbaapi.h) is SNIA HBA API general header file. This is used "as is" without any modifications. The hbaapi.h can be downloaded from <http://sourceforge.net/projects/hbaapi/>
The Initial Developer of the Original Code is:
Benjamin F. Kuo,
Troika Networks, Inc. (benk@troikanetworks.com)
Here is the SNIA Public License Version 1.1
<http://mp-mgmt-api.sourceforge.net/SourceLicense-v1.1.html>

=====
NOTES FOR RAID CONTROLLERS
=====

- * It is strongly recommended that you maintain the latest versions of the RAID controller driver and firmware. Otherwise, unpredictable application behavior may occur.

Install Dell-qualified device drivers and firmware to run diagnostics on RAID controllers and RAID-attached hard drives. See the documentation that accompanied your device for more information, or access the latest drivers and firmware from the Dell Support website at "support.dell.com". The "Dell Online Diagnostics User's Guide" contains a list of the latest drivers and firmware versions for RAID Controllers.

- * Online Diagnostics does not support Adaptec SCSI HostRaid 0 or 1.
- * PERC 4/IM requires Dell OpenManage Array Manager, Dell OpenManage Server Administrator Storage Management Service,

or RAID storage Manager to be installed for diagnostics to function.

* Online Diagnostics does not support CERC SATA 2s (RAID mode).

=====

NOTES FOR TAPE DRIVES, AUTOLOADERS, AND LIBRARIES

=====

* The following table lists the supported Stand-alone drives and the tests.
 ("S" is the abbreviation for "Supported")

Stand-alone Tape Devices	Media Test	Insert Test	Eject Test	Self Test	Firmware Test
100T DDS4	S	NA	S	S	S
100T DAT72	S	NA	S	S	S
110T DLT1	S	NA	S	S	S
110T VS80	S	NA	S	S	S
110T VS160	S	NA	S	S	S
110T SDLT220	S	NA	S	S	S
110T SDLT320	S	NA	S	S	S
110T LTO2-LT	S	NA	S	S	S
110T LTO2-LC	S	S	S	S	S
110T LTO3	S	S	S	S	S
110T LTO3-060-IBM	S	S	S	S	S
110T LTO3-060-Tandberg	S	NA	S	S	S
110T LTO4	S	NA	S	NA	S
114T LTO3-060-Quantum	S	S	S	S	S

* The following table lists the supported autoloader/library and the tests.
 ("S" is the abbreviation for "Supported")
 ("S2D" is the abbreviation for "Slot to Drive", "S2S" is the abbreviation for "Slot to Slot", "S2IE" is the abbreviation for "Slot to IE", "FW" is the abbreviation for "Firmware Test")

Autoloader/ Library	Autoloader tests			Drive tests					
	S2D	S2S	S2IE	Self	FW	Media	Self	Eject	FW
122T VS80	S	NA	NA	S	S	S	S	S	S
122T SDLT320	S	NA	NA	S	S	S	S	S	S

122T LTO2	S	NA	NA	S	S	S	S	S	S
124T VS160	S	S	NA	S	S	S	S	S	S
124T LTO2-LC	S	S	NA	S	S	S	S	S	S
124T LTO3	S	S	NA	S	S	S	S	S	S
132T SDLT320	S	S	S	S	S	S	S	S	S
132T LTO2	S	S	S	S	S	S	S	S	S
132T LTO3	S	S	S	S	S	S	S	S	S
136T SDLT220	S	S	S	S	S	S	S	S	S
136T SDLT320	S	S	S	S	S	S	S	S	S
136T LTO2	S	S	S	S	S	S	S	S	S
136T LTO3	S	S	S	S	S	S	S	S	S
ML6000 LTO2	S	S	S	S	S	S	S	S	S
ML6000 LTO3	S	S	S	S	S	S	S	S	S
TL2000 LTO3	NA	NA	NA	S	S	S	S	NA	S
TL4000 LTO3	NA	NA	NA	S	S	S	S	NA	S
ML6000 LTO4	NA	NA	NA	NA	NA	S	NA	S	S
TL2000 LTO3(SAS)	NA	NA	NA	NA	NA	S	NA	S	S
TL4000 LTO3(SAS)	NA	NA	NA	NA	NA	S	NA	S	S
TL2000 LTO4	NA	NA	NA	NA	NA	S	NA	S	S
TL4000 LTO4	NA	NA	NA	NA	NA	S	NA	S	S

* Systems running Microsoft Windows Server 2008, do not enumerate and support diagnostics for the autoloaders and libraries. Drives inside the autoloader and libraries will be enumerated as stand-alone drives.

* Install Dell-qualified device drivers to run diagnostics on tape drives, tape autoloaders, and tape libraries. See the documentation that accompanied your device for more information, or access the latest drivers from the Dell Support website at "support.dell.com".

* Do not run diagnostics simultaneously on multiple tape devices. In addition, do not run diagnostic tests simultaneously with the SCSI communication tests. For example, if you run diagnostic tests simultaneously for a PowerVault 122T autoloader and a VS80 tape

drive, one of the tests may fail and display the following message:

"The DLL required to run the diagnostic is currently being used by another device. Retry the diagnostic after ensuring that the DLL is not being used by other devices."

* Ensure that all tape backup services are stopped before executing tape diagnostics. Having tape backup services running while executing tape diagnostics may cause unpredictable behavior. The device may show unknown status when enumerated.

* Online Diagnostics lists several attributes for each tape drive. The attributes and their definitions are defined as follows:

- PowerOnHours (POH): Number of hours the tape drive has been powered on.
- TapeMotionHours (TMH): Number of hours the tape has been in use.
- LastClean (LC): Time (in hours) since the last cleaning.
- CleanReq (CR): Whether cleaning is required for the tape drive.
- NumberOfCleans (NOC): Number of cleans performed on the tape drive.
- LoadCount (LoC): Number of times the tape media has been loaded or unloaded in the tape drive.

* For Tape Libraries, Online Diagnostics requires drives inside the library to be daisy chained with the changer.

Any other configuration of tape libraries is not supported and may result in unexpected behavior of the application.

* In PowerVault ML6000, Tape Changer Eject Test will not consider an IE slot as a home slot. The media may not be ejected back to the IE slot from which the drive was loaded.

* The following table lists the attributes for each tape drive ("S" is the abbreviation for "Supported"):

TAPE DEVICE	POH	TMH	LC	CR	NOC	LoC
PowerVault-100T-DDS4	S	S	S	S	S	S
PowerVault-100T-DAT72	S	S	S	S	S	S
PowerVault-110T-LTO1	S	S	S	S	S	S
PowerVault-110T-LTO2	S	NA	NA	S	NA	S
PowerVault-110T-DLT1	S	S	S	S	NA	S
PowerVault-110T-DLT-VS80	S	S	NA	S	NA	S
PowerVault-110T-SDLT320	S	S	NA	S	S	S
PowerVault-110T-SDLT220	S	S	NA	S	S	S
PowerVault-110T-DLTVS160	S	S	NA	S	NA	S

```

-----|---|----|----|----|----|
PowerVault-122T-SDLT320 | S | S | NA | S | S | S |
-----|---|----|----|----|----|
PowerVault-122T-DLT-VS80| S | S | NA | S | NA | S |
-----|---|----|----|----|----|
PowerVault-132T-LTO2   | S | S | NA | S | S | S |
-----|---|----|----|----|----|
PowerVault-132T-LTO    | S | S | NA | S | S | S |
-----|---|----|----|----|----|
PowerVault-132T-SDLT320| S | S | NA | S | S | S |
-----|---|----|----|----|----|
PowerVault-136T-SDLT320| S | S | NA | S | S | S |
-----|---|----|----|----|----|
PowerVault-136T-SDLT   | S | S | NA | S | S | S |
-----|---|----|----|----|----|
PowerVault-136T-LTO2   | S | S | NA | S | S | S |
-----|---|----|----|----|----|

```

* Behavior of tape changer robotic movement tests
Slot-to-Slot, Slot-to-Drive, Slot-to-IE):

```

-----|-----|-----|-----|-----|-----|
Slots  |Drives | IE    |Slot to Slot|Slot to Drive|Slot to IE|
-----|-----|-----|-----|-----|-----|
All empty |All empty |All empty |"All Slots |"All Slots |"All Slots|
      |      |      | Empty"   | Empty"   | Empty"   |
-----|-----|-----|-----|-----|-----|
All empty |All empty |Some empty | Pass     | Pass     | Pass     |
      |      |Some full |          |          |          |
-----|-----|-----|-----|-----|-----|
All empty |All empty |All Full  | Pass     | Pass     |"All IE  |
      |      |          |          |          | Full"   |
-----|-----|-----|-----|-----|-----|
All empty |Some empty|All empty |"All Slots | Pass     |"All Slots|
      |Some full |          | Empty"   |          | Empty"   |
-----|-----|-----|-----|-----|-----|
All empty |Some empty|Some empty | Pass     | Pass     | Pass     |
      |Some full |Some full |          |          |          |
-----|-----|-----|-----|-----|-----|
All empty |Some empty|All Full  | Pass     | Pass     |"All IE  |
      |Some full |          |          |          | Full"   |
-----|-----|-----|-----|-----|-----|
All empty |All Full  |All empty |"All Slots | Pass     |"All Slots|
      |          | Empty"   |          | Empty"   |          |
-----|-----|-----|-----|-----|-----|
All empty |All Full  |Some empty | Pass     |"All Drives | Pass     |
      |          |Some full |          | Full"     |          |
-----|-----|-----|-----|-----|-----|
All empty |All Full  |All Full  | Pass     |"All Drives |"All IE  |
      |          |          | Full"   | Full"     |          |
-----|-----|-----|-----|-----|-----|
Some empty |All empty |All empty | Pass     | Pass     | Pass     |
Some full  |          |          |          |          |          |
-----|-----|-----|-----|-----|-----|
Some empty |All empty |Some empty | Pass     | Pass     | Pass     |
Some full  |          |Some full |          |          |          |
-----|-----|-----|-----|-----|-----|

```

Some empty	All empty	All Full	Pass	Pass	"All IE
Some full				Full"	
Some empty	Some empty	All empty	Pass	Pass	Pass
Some full	Some full				
Some empty	Some empty	Some empty	Pass	Pass	Pass
Some full	Some full	Some full			
Some empty	Some empty	All Full	Pass	Pass	"All IE
Some full	Some full			Full"	
Some empty	All Full	All empty	Pass	"All Drives	Pass
Some full			Full"		
Some empty	All Full	Some empty	Pass	"All Drives	Pass
Some full		Some full		Full"	
Some empty	All Full	All Full	Pass	"All Drives	"All IE
Some full			Full"	Full"	
All Full	All empty	All empty	Pass	Pass	Pass
All Full	All empty	Some empty	Pass	Pass	"All Slots
		Some full		Full"	
All Full	All empty	All Full	"All Slots	Pass	"All IE
		Full"		Full"	
All Full	Some empty	All empty	Pass	Pass	Pass
	Some full				
All Full	Some empty	Some empty	Pass	Pass	"All Slots
	Some full	Some full		Full"	
All Full	Some empty	All Full	"All Slots	"All Slots	"All IE
	Some full		Full"	Full"	Full"
All Full	All Full	All empty	Pass	"All Drives	Pass
			Full"		
All Full	All Full	Some empty	Pass	"All Drives	"All Slots
		Some full		Full"	Full"
All Full	All Full	All Full	"All Slots	"All Drives	"All IE
		Full"	Full"	Full"	

=====

NOTES FOR INTEL NETWORK INTERFACE CARDS (NICs)

=====

* Supported adapters and tests for Intel NIC diagnostics on Windows:

EEPROM	Loopback	FIFO	Interrupt	Link	Control
Test	Test	Test	Test	Test	Register

Adapter								Test
PRO/1000 MF Server Adapter	Yes	Yes	Yes	Yes	No	Yes		
PRO/1000 MT Server Adapter	Yes	Yes	Yes	Yes	Yes	Yes		
Intel PRO/1000 MT Dual Port Sever Adapter	Yes	Yes	Yes	Yes	Yes	Yes		
Intel PRO/100s Server Adapter	Yes	Yes	No	No	Yes	Yes		
Intel PRO/1000 XT Network Connection	Yes	Yes	Yes	Yes	Yes	Yes		
Intel PRO/1000 CT Network Connection	Yes	Yes	Yes	Yes	Yes	Yes		
Intel PRO/1000 MT Network Connection								
Intel PRO/1000 MT Dual Port Network Connection	Yes	Yes	Yes	Yes	Yes	Yes		
Intel PRO/1000 MB Dual Port Network Connection	Yes	Yes	Yes	Yes	Yes	Yes		

KNOWN ISSUES
 #####

The following sub-sections list the known issues with this release of Online Diagnostics.

ISSUES FOR ALL OPERATING SYSTEMS

- * Do not update the NIC drivers when you run tests. The tests may produce unexpected results.
- * During the Autoloader Self-test, the Tape Device Self-test displays a warning (Data on the media will be destroyed!) at the start. This message applies specifically to tape drives and is not valid for Autoloaders.
- * If you disable a network adapter and then enable it, or if you run diagnostics and restart Online Diagnostics, the NICs may not be available in the "Select Test(s) to Run" tree. It takes

approximately 30 seconds for the adapter to return to an active state. If you start Online Diagnostics immediately after one of these situations, the diagnostic tests will not be listed. The workaround is to wait approximately 30 seconds before you start Online Diagnostics.

- * You may get unexpected results on disconnecting the USB cable while you are running a diskette test on a USB diskette drive. On systems running Red Hat Enterprise Linux products, the operating system may stop responding. On systems running Windows, the test may never complete.
- * Running NIC diagnostics which disconnect the network may also cause a Server Administrator user session to be logged out and disruption of applications that require or use a network connection. See the Diagnostics online help for details on NIC diagnostics behavior.
- * Running multiple NIC diagnostics together on a NIC may result in the failure of the NIC Communication Test. If you encounter this error condition, select and run NIC Communication Test individually to obtain accurate results.
- * If you are using a Mozilla browser to view the XML files created by the "Save Configuration" or "Save Results" option, the corners of the HTML file may be distorted.
- * In versions of the Mozilla browser earlier than 1.2, the HTML file generated from the XML file may not be viewable at all.
- * You need to start a fresh session of Online Diagnostics after installing the Dell components required by Online Diagnostics, to take advantage of the new installation.
- * Diagnostics service may enumerate PERC 3/Di controller and attached disks although Dell OpenManage Server Administrator Storage Management Service is uninstalled from the Managed Node. It is recommended that you install the Server Administrator Storage Management Service before running diagnostics on PERC 3/Di.
- * Running diagnostic tests on unsupported tape devices on PowerEdge systems might produce unexpected or erroneous results.

See the Dell Support website at "support.dell.com" for a list of supported tape drives for Dell servers.
- * The Virtual Media test will not pass if the POST Results test is executed prior to it. This is due to the POST Result test disconnecting all open RAC sessions.
- * In the Command Line Interface (CLI), if you abort a diagnostic test, the test results may not appear in some scenarios.
- * The Disk Self Test may fail if you remove the hard disk while the test is running. The test may fail the first time it is run after re-inserting the disk. Ignore this failure and run the test again.

- * When you run diagnostic tests or enumerate with "racadm racreset" command on a DRAC5 simultaneously, the device may not be enumerated or the test might fail in CLI/GUI. Wait until DRAC5 is reset and enumerate or run the tests again.
- * When Picker is loaded with a media and Tape Device Self-Test is run on an auto-loader (Dell PowerVault 124T), a warning message may appear: "The tape device appears to have encountered an error while running its built-in self test, switch the tape device-off and on and try the test again. If this error persists, it indicates a hardware problem." Unload the Picker and run the test again.
- * When a defective media is inserted in a LTO4 drive, the following message is displayed in English, "Incompatible or corrupt media in the drive or media not present. Load a compatible media and run the test again". For non-English systems it displays the following message, "Media is not present in the drive or incompatible media. Load a compatible cartridge before running this test."
- * SAS PHY Integrity Test fails when run simultaneously on a MD1000 connected to a PERC card and an Internal Backplane connected to a non-PERC card. Run the test separately. This failure does not indicate any hardware error.
- * SAS Phy Integrity test fails on Microsoft Windows or Linux Operating Systems, when you run it on a Backplane that has less than four HDDs and at least one SATA-HDD. This failure does not indicate any hardware error.
- * When you save test results or configuration using the Save Results or Save Configuration menu options, with a file name that has double-byte characters (Japanese or Simplified Chinese), the resulting .zip file will be created without an HTML file. Create the file using ASCII characters to avoid this error situation.
- * The SATA CD-DVD attached to a SATA controller, other than NVIDIA, is displayed under that SATA controller in the tree view for all operating systems.
- * Online Diagnostics enumerates and displays the diagnostic tests for the hard drives that are connected to all Dell Supported SAS controllers. However, diagnostic tests for these controllers themselves are unavailable.
- * For CERC 6 family of controllers: controller and supported sub devices are displayed. Tests for the CERC controller are not supported but test will be displayed for supported sub devices.

ISSUES FOR WINDOWS OPERATING SYSTEMS

- * On Windows Small Business Server system, network administrator is not a full privileged Administrator to run Dell Online Diagnostic application. To run Online Diagnostic application, click Start-> Programs-> Online Diagnostic 2.18 and right click "Online Diagnostic GUI" or "Online Diagnostic CLI" and select "Run as

administrator”.

- * After running Online Diagnostics, the following errors are logged in the Event Viewer System Log by the Removable Storage Service.

"Type: Error, Source: DCOM"

"Type: Error, Source: Removable Storage Service"

These entries are logged because Online Diagnostics stops the Removable Storage Service to scan the system for tape devices on which diagnostics are to be performed. After performing the scan, the Removable Storage Service restarts.

- * Do not use special characters in the folder path while installing Online Diagnostics. CLI commands do not work if the application install path contains special characters like '#' or '%'.
* If you start the Online Diagnostics immediately after installing any driver, the tests may not be available in the "Select Test(s) to Run" tree. It takes some time for the driver to get installed completely. Wait for sometime before you start Online Diagnostics.
* If the floppy media is ejected while executing diagnostic tests on a USB floppy drive, you may not be able to stop the drive, using the "Safely Remove Hardware" feature from the Windows system tray.
* On Windows 2003 Small Business Server with bus powered devices having multiple USB CD and Floppy drives, an extra device (without tests) may be shown. If supported, connect external power supply to this hub. Allow sufficient time for the operating system to detect all hot-plugged USB devices and launch the Online Diagnostics GUI.
* RAC Virtual Media test fails with an error message "Unable to find Virtual Floppy," on Windows operating systems installed on PowerEdge Systems running DRAC5. This error situation occurs only when the operating system is rebooted after the floppy drive is virtualized from another system.
* When there are a large number of handles open - due to services like Microsoft Exchange, IIS, SQL, Telnet, FTP, Windows and Internet Name Service running simultaneously on Windows Small Business Server 2003 - and when diagnostic tests are queued multiple times, Online Diagnostics may terminate unexpectedly.
* When Broadcom diagnostics tests are run on NetXtreme II card, this message may appear: "DIAG Client for NetExtreme II GigE". Install the required driver from either the 'Dell Systems Service and Diagnostics Tools CD' or from the Dell Support website at support.dell.com.
* You cannot launch the User's Guide through the application, when the application is installed in a folder with double-byte characters (Japanese or Simplified Chinese) in the path and Mozilla or Firefox

is the default browser. You can manually open the User's Guide available at "`<Install Dir>/docs/<Language folder>/Users_Guide_HTML/index.htm`".

- * On Japanese or Chinese Microsoft Windows operating systems, the device description of external USB devices may contain junk characters. If it is a non-Dell device, Dell recommends that the device should be disconnected before you start Online Diagnostics.
- * In Windows Server 2008 with UAC on the user with administrative privilege as well as non admin privilege can run OLD by the following way.
 - a) Right click the "Online Diagnostics GUI" or "Online Diagnostics CLI".
 - b) Choose the option "Run as Administrator".
 - c) For the user with admin privilege, Windows Server 2008 directly launch OLD but for the non admin user it will ask for administrator password.
 - d) For "Online Diagnostics CLI" in "Run as Administrator" mode Windows Server 2008 will open CLI in "`%SystemRoot%\system32`".
- * In Windows Server 2008 with UAC off the user with administrative privilege only can run the OLD.
- * "Tape drive media test" on Dell 122T VS80 or Dell 120T DDS4 autoloader tape drives in Microsoft Windows Server 2003 and Windows Server 2008 may progress very slowly. To resolve this issue, refer to the Microsoft Knowledge Base article <http://support.microsoft.com/kb/897346>.
- * In Windows Server 2008 Floppy tests might take a longer time to complete compared to the previous versions of Windows operating system.
- * CD/DVD Read Exerciser Test will fail on Microsoft Windows Server 2008 (Core) operating systems as the dependent Windows API command fails to execute.
- * In Windows Server 2008 Server Core operating systems, you may not be able to save test results or configuration using the GUI menu. However, you can access the test configuration and results files that Dell Online Diagnostics stores automatically at the `X:\dell\diagnostics\log` directory, where 'X' is the system drive.
- * In Windows operating systems, when you run diagnostic tests on multiple Broadcom Network Interface Controllers (NICs) at the same time, some tests may fail. Also, a yellow bang may be noted in Device Manager for some NICs. Run one diagnostic test on one NIC at a time for accurate results.
- * Broadcom NIC Tests are available even if hardware is disabled from Windows Device Manager. If BASP Drivers are not installed, test will still be available but the test will fail.

- * Intel NIC Tests are available even if hardware is disabled from Windows Device Manager.
- * The SATA CD-DVD attached to the NVIDIA SATA controller is displayed under "System" in the tree view for operating systems released prior to Microsoft Windows Server 2008.
- * NIC Communication Test may fail if IPv6 is enabled.

ISSUES FOR ENTERPRISE LINUX and ESX OPERATING SYSTEMS

- * If you have the SCIM RPM installed, keyboard navigation may not function correctly while selecting the 'Selection Options'.
- * Running the CD/DVD Read Exerciser test on corrupt CD media or on a faulty drive may cause the test to run for a longer duration, and Online Diagnostics may appear to hang. Terminate Online Diagnostics and try running the test again in the Quick Test mode.
- * Serial port tests are not enumerated on Red Hat(R) Enterprise Linux(R) version 5 update 3 with XEN kernel. This is because XEN kernel uses the serial port during system boot up and operating system fails to load the serial port driver.
- * The Intel NIC description may have some extra trailing characters on the Diagnostics selection page on systems running the Red Hat Enterprise Linux operating system. This does not impact the NIC functionality.
- * Intel Offline test fails when the network services are stopped, if the adapter is not configured for Wake-on-LAN (WOL) or Manageability; and the PHY is powered off. Since the test powers on the PHY and enables WOL, the test passes next time onwards.
- * Connecting or removing USB or CD/DVD devices from Red Hat Enterprise Linux systems, while the enumeration is in progress, may cause the system to hang.
- * If tapeware is installed, the Dell Online Diagnostics application may fail to start. If that happens, please delete the softlink entry `/lib/libstdc++-libc6.2-2.so.3` and restart the Dell Online Diagnostics application to make it work. Please check with the Tapeware support team for fix to this issue.
- * ICH7R IDE controllers are not supported. Running tests on this controller or the devices connected to it may cause unexpected behavior.
- * When you run a SCSI Communication test, on a channel that has an LTO3 tape drive connected to it and perform a backup simultaneously using 'tar commands', the backup operation may fail. Ensure that backup or restore operations are not in progress

before running the SCSI Communication test.

- * When the Yosemite backup software is installed on a system that has a tape changer, SCSI Communication tests and tape tests may fail. Ensure that the Yosemite backup software service is stopped before running these tests.
- * The Tape Self Test writes to and advances the tape media during execution. Manual erase operations using the Linux command "mt -f /dev/stX erase", if executed immediately after the Tape Self Test execution, will fail with an I/O error. To avoid this error condition always rewind the tape media after running the Tape Self Test.
- * When a non-root user uses "su" to become superuser (root), some tests may not work in the CLI, when the pediags command is run. Users should use "su -" to become the super user to run the pediags command.
- * On SuSE Enterprise Server 10, with ArpArmor enabled and when you run network diagnostics on console - some warning messages appear indicating a violation of policy.
- * Multiple USB devices, when connected to a deep hierarchy of bus powered USB Hubs, cause the Linux USB device driver sub-system to become unresponsive. This prevents Online Diagnostics from launching in the GUI mode. Perform the following corrective measures if you are faced with this error situation:
 - * Disconnect the top-level hub connected to the system,
 - * Connect external power supply if supported, to this hub
 - * Disconnect all the devices from the hub
 - * Reconnect the hub to the server
 - * Reconnect the devices on server ports (if available) and to other higher level hub ports having external power supply, if required.
- * POST Result test will not be available on systems running on Linux operating systems and having an IDE Virtual CD Drive with ide-cd driver module. Refer the PSQN No. F25CF0642DD7B211E030030ABD6273EA for the workaround.
- * Intel offline test clears the gateway entry from /proc/net/route table. If NIC Communication test is run after this, the test may result in failure.
- * The onboard SATA disks diagnostic tests are not supported. In the Online Diagnostics GUI, the controller and the tests are disabled and the following message is displayed in the Configuration tab: "Diagnostic tests are not supported on the device." On VMWare, running the pediags idedevdiag --show command does not enumerate the SATA disks.
- * Linux Enterprise servers, Broadcom NIC Test case fails when NICs are teamed. This is a known limitation on Linux and "Failover" is expected as per bonding module design. In this scenario, select and

run Broadcom NIC test cases individually.

* On 11G servers in absence AMEA card on iDRAC, upon starting OLD at command prompt(using startDiags.sh) or after running "rac" package at command prompt(using "pediags rac --show"), a NOTE is displayed which states "This Integrated Dell Remote Access Controller does not support RACADM commands. Please contact Dell Customer Service to upgrade your version of iDRAC".

* On Linux, when you start Online Diagnostics using the /opt/dell/onlinediags/startDiags.sh script, the following error message is displayed: "grep: write error: Broken Pipe." Ignore the message.

* NIC Communication Test may fail if IPv6 is enabled.

* In case the memory and DRAC tests get disabled in Online Diagnostics, restart the Systems Management Device Driver service (instsvcdrv) to enable the memory and DRAC tests.

* USB controllers are not supported on VMware ESX 4.0 (Update 1 and Update 2).

* On PE C6100, serial port diagnostics are available only for BIOS version 1.39 or later. Download the latest BIOS for PE C6100 from support.dell.com.

* On Linux 64-bit systems, memory and serial port diagnostics are not available if OpenManage version 6.3 or later is installed. On these systems, uninstall OpenManage and reinstall Online Diagnostics.

* On VMware ESX 4.0(Update 1 & Update 2), the NIC Communication test is not available for paravirtualized devices, such as vswif (Service Console).

* On VMware ESX Classic, if USB DVDROM is removed while running the tests, the behavior of Online Diagnostics is unexpected and the tests do not complete. In this situation, the Abort functionality does not work.

* Fibre Channel Adapters are not supported on VMware ESX 4.0 (Update 1 and Update 2) and 64-bit Linux operating systems, because the required drivers or utilities are unavailable.

* NIC Communication test, NIC Team test and Broadcom tests are not available on Red Hat Enterprise Linux 6 server (x86_64).

SUPPORTED DEVICES
#####

This section lists the devices that can be tested using Dell™ Online Diagnostics.

Diagnostics for Tape Drives, Autoloaders, and Libraries

Tape Drives:

- Dell PowerVault™ 100T DDS4
- Dell PowerVault 100T/114T DAT72
- Dell PowerVault 110T DLT1
- Dell PowerVault 110T VS80
- Dell PowerVault 110T/114T DLT VS160
- Dell PowerVault 110T SDLT 220
- Dell PowerVault 110T SDLT 320
- Dell PowerVault 110T LTO-2
- Dell PowerVault 110T/114T LTO-2-L
- Dell PowerVault 110T/114T LTO-3
- Dell PowerVault 110T/114T LTO-3 - 060
- Dell PowerVault LTO-4 – 120

Tape Arrays, Autoloaders, and Libraries:

- Dell PowerVault 122T-VS80
- Dell PowerVault 122T-SDLT 320
- Dell PowerVault 122T-LTO-2
- Dell PowerVault 124T-DLT VS160
- Dell PowerVault 124T-LTO2-LC
- Dell PowerVault 124T-LTO-3
- Dell PowerVault 132T-SDLT 320
- Dell PowerVault 132T-LTO-2
- Dell PowerVault 132T-LTO-3
- Dell PowerVault 136T-SDLT 220
- Dell PowerVault 136T-SDLT 320
- Dell PowerVault 136T-LTO-2
- Dell PowerVault 136T- LTO-3
- Dell PowerVault ML6000-LTO-2
- Dell PowerVault ML6000-LTO-3
- Dell PowerVault ML6000-LTO-4
- Dell PowerVault TL2000-LTO-3
- Dell PowerVault TL2000-LTO-4
- Dell PowerVault TL4000-LTO-3
- Dell PowerVault TL4000-LTO-4

External Storage Enclosures:

- Dell PowerVault MD1000
- Dell PowerVault 220 and 221S
- Dell PowerVault MD1120
- Dell PowerVault MD1200
- Dell PowerVault MD1220

Removable Disk Drives:

- Dell PowerVault RD1000 Internal SATA Drive

Diagnostics for RAID Controllers, SAS Controllers, SCSI Controllers, and Attached Hard Drives

- PERC 320/DC
- PERC 4/SC
- PERC 4/DC
- PERC 4e/DC
- PERC 4/Di
- PERC 4e/Di
- PERC 4e/Si

- PERC 4/IM
- PERC 5/E
- PERC 5/i Integrated
- PERC 5/i Adapter
- PERC 6/E
- PERC 6/i Integrated
- PERC 6/i Adapter
- SW RAID S100
- SW RAID S300 a/m
- PERC H200 i/a/m
- PERC H700 i/a/m
- PERC H800
- SAS 6Gbps HBA
- SAS 5/E Adapter
- SAS 5/iR Integrated
- SAS 5/iR Adapter
- SAS 5/i Integrated
- SAS 6/iR Integrated
- SAS 6/iR Adapter
- SAS 6/iR Modular
- ICH 7R
- ESB2 SATA
- CERC 6/I
- CERC 6 /IM
- CERC SATA 1.5/6 Channel
- CERC ATA 100 4/CH
- LSI Logic LSI2032 controller

Diagnosics for Fibre Channel Controllers

- Brown Q Qlogic QME8142 10G FCoE Mezz
- Emulex Brown 2 OCm10102-FM CNA Dual port Mezz
- Emulex LPe1205-M Dual port FC8 HBAs Mezz
- Emulex LPe1150, 4Gb, Optical, Host Bus Adapter
- Emulex LPe12002 Dual Channel 8Gb, Optional, Host Bus Adapter
- Emulex LPe12000 Single Channel 8Gb, Optional, Host Bus Adapter
- Emulex LPe11002 Dual Channel 4Gb, Optional, Host Bus Adapter

#####

Information in this document is subject to change without notice.
 (C) 2011 Dell Inc. All rights reserved.

Reproduction of these materials in any manner whatsoever without the written permission of Dell Inc. is strictly forbidden.

Trademarks used in this text: "Dell", "PowerEdge", "OpenManage", and "PowerVault" are trademarks of Dell Inc.; "Microsoft", "Windows Server", and "Windows" are registered trademarks of Microsoft Corporation; "Intel" is a registered trademark of Intel Corporation; "SUSE" is a registered trademark of Novell, Inc. in the United States and other countries; "Red Hat" is a registered trademark of Red Hat Inc.

Other trademarks and trade names may be used in this document to refer

to either the entities claiming the marks and names or their products.
Dell Inc. disclaims any proprietary interest in trademarks and trade
names other than its own.

March 2011

#####

“The software contained in the Online Diagnostics is an aggregate of
third-party programs as well as Dell programs. Use of the software is
subject to designated license terms. Refer to the LICENSE file for
more information on third-party software license.”