DELL(TM) SYSTEMS BUILD AND UPDATE UTILITY 1.2 README

Version: 1.2

Description:

This Readme provides information about Dell Systems Build and Update Utility. NOTE: Dell OpenManage Systems Management software, including Systems Build and Update Utility, is now available only on the "Dell Systems Management Tools and Documentation" DVD.

You can use Dell Systems Build and Update Utility to perform the following operations on your system:

- * install operating system
- * view hardware details
- * perform firmware update
- * generate hardware configuration scripts
- * create a bootable image for system(s) of choice

For the latest version of this Readme, see the Dell Support website at "support.dell.com."

This file contains the following sections:

- * Criticality
- * Minimum Requirements
- * Release Highlights
- * Installation
- * User Notes
- * Known Issues

3 = Optional

Dell recommends that you review specifics about the update to determine if it applies to your system. The update contains changes that impact only certain configurations, or provides new features that may or may not apply to your environment.

This section provides information about the supported systems, operating systems, and system requirements for Systems Build and Update Utility.

SUPPORTED SYSTEMS

* The following Dell systems are supported on the "Dell Systems Build and Update Utility" version 1.2:

PowerEdge 420, PowerEdge 430, PowerEdge 440, PowerEdge 800, PowerEdge 830, PowerEdge 840, PowerEdge 850, PowerEdge 860, PowerEdge 1425, PowerEdge 1430, PowerEdge 1435, PowerEdge 1800, PowerEdge 1850, PowerEdge 1855, PowerEdge 1900, PowerEdge 1950, PowerEdge 1955, PowerEdge 2800, PowerEdge 2850, PowerEdge 2900, PowerEdge 2950, PowerEdge 2970, PowerEdge 6800, PowerEdge 6850, PowerEdge 6950, PowerEdge M600, PowerEdge M605, PowerEdge 6850, PowerEdge 6950, PowerEdge M600, PowerEdge M605, PowerEdge M610, PowerEdge M710, PowerEdge M805, PowerEdge M905, PowerEdge R200, PowerEdge R300, PowerEdge R410, PowerEdge R610, PowerEdge R710, PowerEdge R805, PowerEdge R900, PowerEdge R905, PowerEdge R905v, PowerEdge T100, PowerEdge T105, PowerEdge T300, PowerEdge T410, PowerEdge T605, PowerEdge T610, PowerEdge T710, PowerVault 100, PowerVault 500, PowerVault 600, PowerVault DL2000, PowerVault NX1950

SUPPORTED OPERATING SYSTEMS

The following operating systems are supported:

* Microsoft Windows Server 2003 SP2 x86 Edition - Web, Standard, Enterprise

- * Microsoft Windows Server 2003 SP2 x86_64 Edition Standard, Enterprise
- * Microsoft Windows Server 2003 SP2 R2 x86 Edition Standard, Enterprise
- * Microsoft Windows Server 2003 SP2 R2 x86_64 Edition Standard, Enterprise, Datacenter
- * Microsoft Windows Server 2003 SBS SP2 R2 x86 Edition-Standard, Premium
- * Microsoft Windows Server 2008 x86 Edition Web, Standard, Enterprise
- * Microsoft Windows Server 2008 x86_64 Edition Web, Standard, Enterprise, Datacenter
- * Microsoft Windows Server 2008 SBS x64 Edition-Standard, Premium
- * Microsoft Windows Server 2008 EBS x64 Edition-Standard, Premium
- * Red Hat Enterprise Linux version 4 Update 7 for x86
- * Red Hat Enterprise Linux version 4 Update 7 for x86_64
- * Red Hat Enterprise Linux version 5 Update 3 for x86

* Red Hat Enterprise Linux version 5 Update 3 for x86_64

* Novell(R) SUSE Linux Enterprise Server (SLES) version 10 (SP2) x86_64

- * Novell(R) SUSE LINUX Enterprise Server (SLES) 11 x86-64
- * VMware ESX 3.5 Update 4
- * VMware ESX 4.0

SYSTEM REQUIREMENTS

You should have a Dell system with: * Minimum memory of 512 MB

* DVD drive

NOTE: Hard drive requirements vary by operating system

- * Added support for Red Hat Enterprise Linux version 5 Update 3 for x86
- * Added support for Red Hat Enterprise Linux version 5 Update 3 for x86_64
- * Added support for Novell(R) SUSE Linux Enterprise Server (SLES) version 11 for x86_64
- * Added support for VMware ESX 4.0
- * Removed support for Novell(R) SUSE Linux Enterprise Server (SLES) version 9 (SP4) x86_64

- 1. Insert the "Dell Systems Management Tools and Documentation" DVD into your system drive and reboot your system. If the system is supported by the DVD, the "Boot Menu" screen displays. The "Boot Menu" screen contains the following options to boot your system:
 - * "Dell Systems Build and Update Utility"
 - * "Optical Media (CD/DVD) Check"
 - * "Skip Optical Media (CD/DVD) Boot Boot to Hard Drive"
- 2. When you select the "Dell Systems Build and Update Utility" option, the "Home" page for "Dell Systems Build and Update Utility" displays. From the "Home" page, you can access the Systems Build and Update Utility modules:
 - * Server Operating System Installation
 - * Firmware Update
 - * Hardware Configuration
 - * View Hardware

"Dell Systems Build and Update Utility" can also be used to

create a bootable image, or export configurations for, any of the supported systems. Click "System(s) Selection" to change the system(s) of choice. The current systems is selected by default.

3. Each of the above modules can be configured independently, and all the configurations can then be applied in one go. Alternatively,the Server OS Installation can be done by itself in one flow.

To configure any of the above modules, click "Configure" against the module name. Follow the instructions to complete the configuration. Context-sensitive help is provided on each page.

- 4. To apply all configurations, click "Apply/Export Configuration". Follow the instructions to apply the configurations, and select "Continue".
- 5. Insert the operating system CD/DVD media if installing from CD/DVD, when asked by the system.
- 6. The system reboots and the unattended operating system installation continues.
- 7. When the installation is complete, your system is ready for use.

This section provides information to help enhance your experience with Systems Build and Update Utility.

GENERAL NOTES

* The following languages are supported by Systems Build and Update Utility:

- * English
- * French
- * German
- * Spanish
- * Simplified Chinese
- * Japanese

* See the "readme.txt" under the folder "/server_assistant/driver_tool" for all details on the driver extracting utility.

* For operating systems such as ESX and Windows 2008 Server, for which the installation is not fully-automated, the native Graphical User Installation tool provided by the operating system installation media is used. Hence setting date and time zone in the Systems Build and Update Utility setup screen does not get applied. The date and time will have to be set manually once the operating system is installed.

- * If the Systems Build and Update Utility GUI disappear and a blank screen is displayed, restart your system. This issue occurs if you right-click to open a new browser window (from the "Quick Reference Guide" window) and select "Quit" from the "File" menu.
- * In order to use the RAID configuration feature of Systems Build and Update Utility to configure RAID and install the operating system, the "Fast Initialization" parameter of the RAID controller must be set to "ON." This setting is the factory default of all RAID controllers.
- * Do not insert or remove any hot-swappable drives until the operating system is completely installed while using the "Systems Build and Update Utility". The results may be unpredictable and the installation may fail.
- * Replication is supported on systems with multiple controllers, provided the controllers are in an initialized state. This is applicable to both master and target systems.
- * If you configure RAID manually and use Systems Build and Update Utility to install an operating system on a master system, then you need to manually configure RAID on the target system as well.
- * Use local accounts for creating the SMB share on Windows on which the RPMs will reside for the network download feature.
- * Systems Build and Update Utility does not support the installation of tape or Fibre Channel drivers with the operating system installation. You can download the drivers for these devices from the Dell Systems Service and Diagnostics Tools on the "Dell Systems Management Tools and Documentation" DVD or from the Dell Support website at "support.dell.com".
- * The "Keyboard Type" locale option offered for a keyboard layout on the systems Build and Update Utility home page is for the Systems Build and Update Utility screens navigation only. The selected keyboard layout setting is not passed to the installed Operating System.

Even after you select any language other than English under "Select Language" and "Keyboard Type" on the "Home" page, the input language will be English. That is, the text you enter in the text fields in the GUI will appear in English.

* Do not use the Dell Remote Access Controller (DRAC) virtual media to run "Firmware Update" on the system. This procedure breaks the virtual media connection, causing the firmware update procedure to fail.

- * USB keys formatted with NT File System (NTFS) or file allocation table (FAT16) are not supported.
- * Any network or Windows share or CD/DVD that you use an input to the Repository must not contain any extra file or folder that is not part of the Server Update Utility (SUU) content.
- * When you select the "No Change" option for Trusted Platform Module (TPM) Activation, under Boot sequence and security tab, the TPM activation token will not be saved to the ".ini" file.
- * "Digitally sign communications" enabled Windows share on a system running on Windows cannot be accessed. To access the share, disable this feature on the Windows system.
- * When you insert multiple USB keys into your system, Systems Build and Update Utility uses the last inserted USB key which has a repository that is applicable to the platform to which your system belongs and is compatible with the Systems Build and Update Utility repository.
- * The selections on Set the Date and Time page in SOI will show default values (not the earlier selected values) when the user re-visits the page by clicking Back or Edit. The user selected values will be stored internally and will be applied to the system when user opts to apply.
- * OS Installation: Windows Server 2008 (32 and 64 bit), VMware ESX apply options screen will not have OS ISO location specified as these installation require OS ISO at runtime when OS is getting installed. SBUU will boot to hard disk and then ask for OS ISO DVD and then user has to supply it. These installations do not work on network. They are for standalone servers.
- * When the User selects the Embedded NIC and/or Redundant Memory token in the BIOS page in the Hardware Config screen, the options shown for this token are a superset. If the user selects an option which is not supported in the current system, applying Hardware Scripts will fail and if Exit on Failure option is selected, the deploy operation will halt.
- * When the User selects the Redundant Memory token in the BIOS page in Hardware Config screen, the options shown for this token are a superset. If the user selects an option which is not supported in the current system, the apply operation will fail during execution and the option will not be applied on the box.
- * When the User selects to use Operating System ISO's from network location and during copy operation, if the network is disconnected for a while and then reconnected, in case of NFS shares, it will resume the copy operation but, in case of SMB/Windows share, it will not resume the copy operation. Disconnection on a SMB/Windows share will result in an error and user has to reboot and re-run the operation.

* The values configured in the multi-sys-config.csv file will be applied only during execution. Only those options are applied that are shown during configuration time. However, options that are not shown during configuration, but are part of multi-sys-config.csv file will be ignored. Note: If there is any overlap in the settings between Configuration GUI and multi-sys-config.csv file, then settings in multi-sys-config.csv file will override those made in the GUI.

* The installation times for different versions of the Windows Server 2008 operating system will vary considerably. This is because of the differences in the software and drivers utilized in different versions of the Windows Server 2008 operating systems and the capabilities of the installation platform. On the "Installing Windows" screen, the "Completing installation" step, where the drivers are installed, may take considerable time to complete.

* If you configure the BIOS or iDRAC6 entry with "Setup Password Override" checkbox under "Power" Section and then you Export the configurations and then import the same configuration and view/Edit the imported configuration.

User will see the 'Setup Password Override' checkbox is not checked.

USER NOTES FOR WINDOWS OPERATING SYSTEMS

* During Windows installation, the system will automatically log on to finish the post-installation tasks and will then automatically log out. It is recommended that you do not perform any task until the system has automatically logged out. Installation might end abnormally if the installation process is interrupted.

* If you enable "Console Redirection":

* A dialog box displays that an Expanded Memory Support (EMS) connection has been discovered during the operating system installation.

* You enter the organization name and computer name, an error message displays that "unattend.txt" is incomplete and prompts you to enter the username. Enter the username to continue with the unattended setup operation.

- * In the Advanced "Enter OS Information" screen, enter all IP addresses for the "Trap Destination" field separated by commas. Do not enter trailing commas, or the installation will stop when the Windows Setup program runs.
- * If you install Windows Server 2003 Web Edition using Dell Systems Build and Update Utility Internet Information Server (IIS) is installed by default. You should choose NT File System (NTFS) to ensure all of IIS components install correctly.

* Dell PE T710 backplane Windows device driver is not included in the Dell SBUU media. A yellow bang for the device is expected after MS Windows operating system is installed. Please download the PE T710 backplane device driver from support.dell.com to resolve the yellow bang.

USER NOTES FOR RED HAT ENTERPRISE LINUX OPERATING SYSTEMS

* At least 14.1 GB disk space is required to install Red Hat Enterprise Linux.

- * If you use the "Download RPMs from Network" feature, the RPMs are downloaded to the partition called "/home." The recommended size for this partition is 3 GB plus the size of the RPMs you want to update. All downloaded RPMs are installed during the post install phase of the Red Hat Enterprise Linux installer.
- * Entering a double quote character (") in the "Root Password" field of the Red Hat Enterprise Linux installation will result in denial of access to the root "log in."
- * Systems Build and Update Utility limits the maximum block device size on a Linux system to 8 TB.
- * A network download of RPMs requires that the target system have a DHCP IP address and that the system is connected to a network.
- * While configuring the hard drive on a system to install a Red Hat Enterprise Linux operating system, if the hard drive space on your system is used completely and the range specified in the GUI against the "swap" partition is the same (for example [1024 -1024] MB), the scroll bar remains to the left side.

USER NOTES ON PREPARING LINUX OS INSTALLATION MEDIA

Systems Build and Update Utility performs a media check on the Linux operating system media that is provided during installation. This is so that you do not copy damaged media that will cause your operating system installation to fail. This is a default action performed by SBUU, and you cannot disable it.

It has been observed that certain CD burning software fail to prepare media to pass the media check.

Dell recommends that you use the optical media obtained from the operating system vendor to install Red Hat Enterprise Linux or SUSE Linux operating systems using Systems Build and Update Utility.

If it is necessary to burn the media using CD burning software, ensure that you:

- * Obtain the ISO image file of the media from known sources.
- * Try burning the media at slower speeds
- * Use the "Disk at Once" or a similar option.
- * Close the session.

USER NOTES FOR VMware ESX

* ESX 3.0.2 Update 1 or later versions support following systems and devices:

- Intel Xeon E5400/L5400/X5400, and E7300/L7300/X7300 processor families

- Dell PERC 6 and SAS 6 family SAS controllers
- SATA Optical Drives

For details on the hardware support and ESX build number, see "www.dell.com/vmware" on the Dell Support website at "support.dell.com." Also, see the "Dell OpenManage Server Administrator Compatibility Guide" and the "Dell Systems Software Support Matrix."

The following subsections list the known issues with this release of Systems Build and Update Utility.

* On Dell PowerEdge systems with internal USB, BIOS setting configuration for internal USB Port is possible only if User Accessible/external (UA) USB ports are set to "All Ports On". If UA USB ports are not set to "All Ports On" and user tries to configure BIOS setting for internal USB Port using Server Administrator GUI or CLI, the configuration will appear to be successful but the changes will not take effect on next reboot. If UA USB ports settings are changed from "All Ports On" to "All Ports Off" or "Only Back Ports On", the USB will be automatically set to "Off" during the next reboot.

KNOWN ISSUES ACROSS ALL OPERATING SYSTEMS

* Systems Build and Update Utility does not support RAID configuration on any system with a SAS 5/iR or SAS 6/iR controller connected to one hard drive. To install Systems Build and Update Utility on a system with the SAS 5/iR or SAS 6/iR controller, ensure at least two hard drives are connected.

* Systems Build and Update Utility does not support RAID Configuration on any system with a SATA 2s controller connected to one hard drive. To install Systems Build and Update Utility on a system with the SATA 2S controller, set the hard drive configuration to "Native Mode" in the BIOS setup or configure RAID using the "Ctrl+A" option.

* If a USB flash device is connected to the system, Systems Build and Update Utility may fail to install the operating system. To resolve the issue, perform one of the following actions:

- Remove the USB flash device.

- In the BIOS setup, under "Boot Order," move the "USB Device" selection to the end of the list.

* The "View Hardware" feature in Systems Build and Update Utility does not provide information on devices that are connected to the chassis. The current listing of devices is not complete and does not include devices such as Fibre Channel cards and Dell Remote Access Controller 5 (DRAC 5).

- * Use of localized special characters might cause the Systems Build and Update Utility GUI to freeze intermittently.
- * If there are multiple SAS or RAID controllers on the system, Systems Build and Update Utility will always use the controller listed first in the BIOS boot order list. If you want to use a particular controller for the operating system, you must go to the BIOS setup (F2 on boot) and set up the given controller as the first boot device.
- * Systems Build and Update Utility does not support the configuration of partitions or the installation of operating systems on systems with PERC 2/SC, PERC 2/DC, or PERC 2/QC controllers or any type of Fibre Channel storage adapter.
- * It is not recommended to start the server setup program if any virtual disks are in a failed or degraded state. Use the RAID controller's firmware utility (<Ctrl><A> or <Ctrl><M> or <Ctrl><R> or <Ctrl><C> during boot) to reset the RAID controller's state. If an array disk is removed, the firmware utility may indicate the configuration has changed. Accepting these changes on the command line may not be enough; enter the firmware utility and reset the controller.
- * The Server Setup program might fail if it runs when scrubbing is active on a RAID virtual disk.
- * Systems Build and Update Utility does not identify the boot device when PERC (4DC/3DC) is in cluster mode and the adapter's BIOS is

disabled. This will put Systems Build and Update Utility in an infinite "Write Disk signature" and reboot loop. Use Systems Build and Update Utility to install the operating system on PERC in a non-cluster mode.

- * Systems Build and Update Utility cannot detect the correct slot number of PCI slots containing Adaptec RAID controllers. The message "Unknown Slot Number" is displayed.
- * On systems with low memory (less than 256 MB) and more than one RAID controller, Systems Build and Update Utility may fail during RAID configuration. Install the additional adapters after the operating system has been installed on the first adapter.
- * When using the Custom install script feature, commands which do not return cause the system to stop responding during booting of Red Hat Enterprise Linux or while registering components on Windows installations.
- * On SAS 5/iR, 6/iR controller cards, disks that appear in "Foreign" state will not be available for OS installation in non-RAID mode. If you wish to use any disk that is in "Foreign" state for OS installation, clear the physical disks using "Erase All Physical Disks" feature under System Tools section. If all disks are in "Foreign" state, Systems Build and Update Utility may fail to install OS on the controller in non-RAID mode.
- * On system with SAS 5/iR and/or SAS 6/iR controller cards connected to more than 2 disks, Systems Build and Update Utility supports only Advanced RAID Configuration. In Advanced mode, it is mandatory that user select disk with lowest drive ID for RAID configuration.
- * When you use Systems Build and Update Utility with a keyboard-video-monitor (KVM) switch, the GUI may not display due to incompatibility with the Server Interface PODs (SIPs) used. To view the GUI, connect your monitor directly to your system or change the SIP.
- * The "View Hardware" option in Systems Build and Update Utility lists the L2 cache size as 4 MB for 5300-series processors running on Red Hat Enterprise Linux version 4 operating system; however, the "BIOS SETUP" option lists the L2 cache size as 8 MB.

This is because Linux "reads" a 5300-series processor in terms of per-logical-CPU-thread. Hence, each logical thread (each set) would still have access to only 4 MB cache, and so it is reported as such by the "View Hardware" option.

The "BIOS SETUP" option "reads" the 5300-series processor as a two-set package, each with a 4 MB L2 cache. In each set, the two cores share the 4 MB cache. Hence, this option reports a total L2 cache size of 8 MB.

Therefore, the different L2 cache sizes listed are due to different

cache size reporting mechanisms, and not an error by the operating system.

- * To ensure the successful installation of an Operating System using Server OS Installation, disable the DRAC Virtual Flash.
- * When you are using the Server Operating System Installation module in Systems Build and Update Utility to install an operating system, the installation may fail if an external storage device is connected to your system. Ensure that you disconnect the external storage device before you begin installing the operating system.
- * The Edit option shown on the SBUU homepage after Hardware Configuration section is configured, will allow the user only to view all the created Virtual Disks and user is allowed to add or remove Virtual Disks. User will not be allowed to edit the settings of already configured Virtual Disk.
- * When an external storage enclosure is connected to the storage controller, RAID can be configured on that controller using SBUU. But, SBUU will not support installing an Operating System on the Virtual Disk which is created on the controller connecting to an external storage enclosure.
- * iDRAC users created through SBUU do not get enabled. To enable these users, user will have to go to DRAC (DRAC5 or iDRAC) GUI and set the user privilege level to desired level (Administrator, Operator etc).
- * When you insert multiple USB keys into your system, Systems Build and Update Utility uses the last inserted USB key which has a repository that is applicable to the platform to which your system belongs and is compatible with the Systems Build and Update Utility repository.

KNOWN ISSUES FOR LINUX OPERATING SYSTEMS

When you are using the "Dell Systems Management Tools and Documentation" DVD through DRAC, Systems Build and Update Utility may not eject the DVD before asking you to insert the operating system media. This displays the error message, "Invalid media inserted."

To correct this, unmount the DVD from DRAC; then insert the correct operating system media and mount the drive again.

KNOWN ISSUES FOR RED HAT ENTERPRISE LINUX OPERATING SYSTEMS

* When using the "Dell PowerEdge Installation and Server Management" CD/DVD media for new RAID configurations, installation of the Red Hat Enterprise Linux operating system may fail if both the USB CD and USB floppy are connected. To avoid the installation failure, remove the USB floppy connection before rebooting the system with the CD/DVD for the installation process.

KNOWN ISSUES FOR NOVELL SLES10/SLES11 OPERATING SYSTEMS

* The Novell SLES 10 / SLES 11 operating system installation may fail on systems equipped with multiple RAID and/or SCSI controllers, whether installed on the system board or in PCI slots. This failure may occur when using Server Setup or performing a manual installation. When two or more RAID or SCSI controllers are present, install Novell SLES 10 / SLES 11 with only one configured RAID or SCSI controller. Configure the other controllers after you install the Novell SLES 10 / SLES 11 operating system.

* When certain cards, notably Qlogic or Emulex fiber channel cards, are present in PowerEdge R805 and PowerEdge M905 systems, SLES 11 (and other linux kernels later than 2.6.27) may cause the system to reboot when drivers for those cards are loaded.

The issue occurs because the linux kernel changes the memory address assignments to certain add-on PCI devices such that they overlap the second I/O APIC interrupt controller in the system.

To workaround the issue for the PowerEdge R805, you can:

- Set the Optical Drive Controller (under Integrated Devices) to On in system setup.
 - This changes the system resource assignments such that this issue does not occur.

If this workaround fails, you can:

- Add the kernel parameter acpi=noirq to the kernel command line to prevent the linux kernel from using the I/O APIC interrupt controllers.

To workaround the issue for the PowerEdge M905, you can:

- Add the kernel parameter acpi=noirq to the kernel command line to prevent the linux kernel from using the I/O APIC interrupt controllers.

A fix for this would be available in a future update BIOS revisions for SLES 11.

KNOWN ISSUE(S) FOR VMware ESX 4.0 OPERATING SYSTEM

* If you choose to install VMware ESX 4.0 operating system, the Dell Utility Partition is deleted during the operating system installation.

KNOWN ISSUE(S) FOR FIRMWARE UPDATE FEATURE

* The "View/Edit/Reset" becomes enabled for the "Firmware Update" even if user does not select any components for update.
When user visits the "Firmware Update", specifies the Server Update Utility (repository) location either using the DVD or NFS or SMB or USB media, views the comparison report. If the server comparison report does not have any updatable components, user cannot configure anything in this page and user returns to the home page.
However since the user configured the repository, the "View/Edit/Reset" option on the home page will be enabled irrespective of user's configuration of the firmware updates.

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