

BIOS

Basic Input / Output System (BIOS) facilitates the hardware initialization process and transition control to the operating system.

Version 02.00.21

Release Date: May 20, 2014

Previous Version 02.00.20

Importance

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

Platform(s) Affected

Dell PowerEdge R820 servers

What's New

Updated Intel Xeon processor E5-4600 V2 product family microcode to 427.

Fixes

Corrected an issue where a complex sequence of internal processor events may result in unexpected page faults or use of incorrect page translations If EPT (Extended Page Tables) is enabled. Due to this erratum a guest may crash or experience unpredictable system behavior.

Important Notes

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History of Previous Release Notes

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**Version** [02.00.20](#)

**Release Date:** [January 17, 2014](#)

**Previous Version** [01.07.02](#)

## Importance

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

## Platform(s) Affected

[Dell PowerEdge R820 servers](#)

## What's New

- Added support for Intel Xeon E5-4600 V2 family of processors.
- Updated Intel Authenticated Code Module (ACM) to Rev 2.4.
- Added 1866MHz memory DIMM support for Intel Xeon E5-4600 V2 processor.
- Added 64 GB LRDIMM memory support for Intel Xeon E5-4600 V2 family of processors.
- Updated iDRAC HII configurator UEFI driver to v1.55.55.05.
- Improved the System Setup user interface.
- Updated BIOS Copyright as 2014 Dell Inc.

## Fixes

- Corrected an issue where UEFI vMedia device failed to boot through iDRAC when all USB ports were disabled under the BIOS setup.

## Important Notes

Back-flashing to BIOS versions earlier than 02.00.20 is not allowed if Intel Xeon E5-4600 V2 family processors are installed.

# History of Previous Release Notes

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Version 01.07.02

Release Date: November 26, 2013

Previous Version 01.07.01

Importance

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

Platform(s) Affected

Dell PowerEdge R820 servers

What's New

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Fixes

Corrected an issue with PCIe GEN3 support for Integrated Network card

Important Notes

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**Version** 01.07.01

**Release Date:** September 20, 2013

**Previous Version** 01.06.06

## Importance

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

## Platform(s) Affected

Dell PowerEdge R820 servers

## What's New

- Added support for Windows 2012 R2.
- Updated Intel Management Engine (ME) binary to Rev 2.1.5. 0x87. Corrected an issue where throttling may be enforced, even after power cap restrictions are removed, if a system was under load during a warm reboot.
- Updated Intel chipset configuration compliant with latest BIOS Specification Updates to Rev 2.0.4.
- Updated iDRAC HII configurator UEFI driver to v1.50.50.21:
  - On the basis of functionality, reordered the links on the iDRAC Settings page.
  - Updated the System Event Log page with a link to display the system event log messages.
  - Updated the Reset iDRAC configuration to defaults page to dynamically refresh the percentage completion status of configuration.
  - Updated the OS to iDRAC Pass Through page with an additional setting for USB NIC.
  - Updated the online help content related to Thermal.

## Fixes

Corrected the behavior of Dell Fault Resilient Mode to match with that of Mirror Mode when the DIMM population order does not support RAS features.

## Important Notes

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Version 01.06.06

Release Date: August 29, 2013

Previous Version 01.05.00

Importance

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

Platform(s) Affected

Dell PowerEdge R820 servers

What's New

- Updated Intel Management Engine (ME) binary to Rev 2.1.5. 0x81.
- Updated Intel Processor Power Management (PPM) reference code to Rev 1.25 (PPM is used when performance per Watt (OS) is selected in the system profile settings).
- Updated Authenticated Code Module (ACM) to Rev 2.2.
- Updated Intel processor and memory reference codes to Rev V2.00.00.02.
- Updated Intel chipset configuration compliant with latest BIOS Specification Updates Rev 2.0.3.
- Intel Xeon processor E5-4600 product family microcode 710.
- Updated iDRAC HII configurator UEFI driver to v1.45.45.
- Booting to the Operating System in Turbo speed with Turbo Boost is enabled and CPU Power Management mode set to OS DBPM.
- New setup option to select either "IPv4" or "IPv6" PXE boot mode in UEFI Boot Settings.
- New Memory Operating Mode setup option "Dell Fault Resilient Mode ".
- Upgraded the UEFI network stack adding IPv6 support.
- New F3 hotkey in System Setup to load default settings from serial terminals.
- Improvements to the System Setup user interface.
- Added a new user interface for restoring Service Tag after a motherboard replacement.
- Updated to ensure existing asset tag can still be carried over when 30 byte asset tag is supported.
- To improve system memory resource allocation for GP-GPUs, the default value for mapping of MMIO above 4GB is now enabled.
- Enhanced POST handling of certain out-of-spec PCIe cards.

Fixes

- Corrected an issue where Virtual-APIC page accesses with 32-Bit PAE paging may cause a system crash.

- Corrected an issue where maximum turbo capability of Xeon processor E5-2690 CPUs can be limited when booting to certain OSs.
- Corrected an issue where system locks-up in POST after an abnormal shutdown under Solaris OS.
- Corrected an intermittent system lock up problem when console redirection is enabled.
- Fixed the ISC (In-System Characterization) feature unexpectedly getting disabled issue.
- Corrected language translation problems in System Setup.
- Corrected an issue where the system hangs with all Dell supported Brocade adapters that are using 3.2.x code base. (This issue affected Brocade BR1020, BR1741M-K and BR825 cards).
- Fixed an error in BIOS32 INT 1A support.
- Updated SMBios to report correct LRDIMM capacity when not in the "Optimizer" Memory Operating Mode for a fully populated system.

Important Notes

BIOS 01.06.06 does not support Intel Xeon E5-4600 V2 processor.

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System: Dell PowerEdge R820

Version: 1.5.0

Release Date: 03/08/2013

- Allows Memory 2X Refresh operation independent of temperature. This option is accessible through the System Profile Settings menu under the BIOS setup.

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System: Dell PowerEdge R820

Version: 1.3.7

Release Date: 10/26/2012

- Updated Intel Management Engine (ME) binary to Rev 2.1.5.6D
- Updated Intel Processor Power Management (PPM) reference code to Rev 1.24 (PPM is used when performance per Watt (OS) is selected in the system profile settings)
- Updated BIOS to support Trusted Computing Group (TCG) Physical Presence Interface Specification version 1.2

- Updated the maximum supported frequency to 1600Mhz for RDIMMs and UDIMMs in both 1 DIMM per channel and 2 DIMMs per channel configurations, when operating at either 1.35V or 1.5V
- Updated the default maximum supported frequency to 1333Mhz for RDIMMs and LRDIMMs in a 3 DIMM per channel configuration
- Updated DIMM rank reporting for LRDIMMs to use physical rather than logical number of ranks
- * Updated chipset reference code to improve downstream Integrated IO (IIO) performance and PCIe x16 port operation
- Increased the Asset Tag maximum length to 30 characters
- Enhanced the serial baud rate detection algorithm for console redirection support
- Added CPLD update support in Lifecycle Controller
- Made minor improvements to the System Setup user interface
- Added updates for future GP-GPU support
- Added support when loading BIOS defaults using the <ALT><F> keys, through the serial console terminal when console redirection is enabled
- Updated iDRAC UEFI driver to v1.30.30.27 with the following changes:
 - Updated the System Summary page to display the iDRAC License, Current iDRAC network settings, and upstream and downstream backplane information
 - Updated the Network Settings page to configure the Auto Dedicated NIC and Static IPv4/IPv6 settings, and view the Active NIC interface
 - Added OS to iDRAC Pass Through configuration settings
 - Updated the Alerts page to configure 8 Alert Destinations and added support to configure IPv6 and FQDN address
 - Added System Event Log configuration settings
 - Updated Power Configuration settings to be enabled on the Rack and Tower servers with PMBus capable power supply

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System: Dell PowerEdge R820

Version: 1.2.6

Release Date: 09/11/2012

- Updated Authenticated Code Module (ACM)
- Updated memory reference code
- Updated processor reference code
- Updated chipset reference code to improve PCIe x16 slot performance

- Updated Intel Xeon processor E5-2600 product family microcode for C1 stepping to 00000619
- Updated Intel Xeon processor E5-2600 product family microcode for C2 stepping to 0000070D
- Added Windows 2012 support
- Increased the speed of the System Setup launch process
- \* Enhanced the iDRAC virtual mouse performance in pre-boot GUIs such as System Setup and Lifecycle Controller
- Enabled display of CPLD version information in BIOS setup
- Added UEFI boot support for Ubuntu
- Added support to allow PCI Memory Mapped I/O allocation above 4 GB
- Improved Nvidia M2090 and M2075 PCIe training mechanism
- Added logic to make I/O resource allocation more robust
- Improved handling of storage devices without a native UEFI driver
- Updated DIMM types used in power budget calculation to include LRDIMMs
- Changed default option for the Memory Operating Mode for all Memory Configurations to "Optimizer"
- Increased system memory speeds for Memory Configurations with all slots in a channel populated and when the System Profile in BIOS setup is set to "Performance" mode or Memory Frequency in the Custom" mode is set to Memory Maximum Performance
- Increased system memory speeds for 1600 MT/s DDR3L RDIMMs when one or two slots in a channel are populated
- Enabled entering System Setup (F2 hotkey) on a boot where a one-time Service Partition Boot has been requested
- Added new power management option "Collaborative CPU Performance Control" in the System Profile settings
- Added new power limiting option "Logical Processor Idling" in the Processor Settings
- Corrected an issue where HPET resources are not reported to OS

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System: Dell PowerEdge R820

Version: 1.1.5

Release Date: 05/10/2012

- Updated Authenticated Code Module (ACM)
- Updated memory reference code
- Updated processor reference code
- Updated chipset reference code

- Updated management engine firmware
- Enhanced mixed-stepping processors support
- Enhanced GPU power support
- Optimized System Profile Dense Memory mode support
- Updated the iDRAC UEFI driver
- Added ACPI5.0 error type structure support
- Added UEFI HII browser enhancements
- Updated memory POR speed support
- Updated Intel Xeon processor E5-2600 product family microcode for C1 stepping to 00000616
- Updated Intel Xeon processor E5-2600 product family microcode for C2 stepping to 0000070B
- Added IOAT feature
- Improved Direct IO support
- Improved SRIOV support
- Disabled DDR opportunistic self-refresh feature for the Max Performance mode
- Added NUMA IO support
- Added ACPI consistent device naming support for add-in cards
- Added CPLD firmware update capability for Lifecycle Controller

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System: Dell PowerEdge R820

Version: 1.0.2

Release Date: 04/26/2012

- Fixed a potential hang issue in POST after "Initialization complete".
- Disabled node interleaving for 4P configurations. 4-Way node interleaving is not supported.

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System: Dell PowerEdge R820

Version: 1.0.0

Release Date: 03/06/2012

This release is the first customer release.

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