



## Statement of Volatility – Dell EMC PowerEdge – R6515

Dell EMC PowerEdge R6515 contains both volatile and non-volatile (NV) components. Volatile components lose their data immediately upon removal of power from the component. Non-volatile components continue to retain their data even after the power has been removed from the component. Components chosen as user-definable configuration options (those not soldered to the motherboard) are not included in the Statement of Volatility. Configuration option information (pertinent to options such as microprocessors, remote access controllers, and storage controllers) is available by component separately. The following NV components are present in the PowerEdge R6515 server.

Item	Non-Volatile or Volatile	Quantity	Reference Designator	Size
<b>Planar</b>				
CPU Internal CMOS RAM	Non-Volatile	1	CPU0	256M bytes
BIOS SPI Flash	Non-Volatile	1	J6_1	32 MB
iDRAC SPI Flash	Non-Volatile	1	J5_1	4 MB
BMC EMMC	Non-Volatile	1	U_EMMC2	8 GB
System CPLD RAM	Volatile	1	U_CPLD1	34 KB
System Memory	Volatile	1	CPU0: A1~A16,	Up to 64GB per DIMM (RDIMM)  Up to 128GB per DIMM (LRDIMM)
CPU Vcore and VDDCR SOC FW	Non-Volatile	1	PAAU1 PBAU1	
MEM_VDDQ FW	Non-Volatile	1	PAEU1, PBEU1	
LOM NVRAM	Non-Volatile	1	U_LOM1_ROM	8MB
<b>Power Supplies</b>				
PSU FW	Non-Volatile	1 per PSU	Varies by part number	Up to 2MB. Varies by part number

Item	Type (e.g. Flash PROM, EEPROM)	Can user programs or operating system write data to it during normal operation?	Purpose? (e.g. boot code)
<b>Planar</b>			
CPU Internal CMOS RAM	Battery-backed CMOS RAM	No	Real-time clock and BIOS configuration settings
BIOS SPI Flash	SPI Flash	Yes	Boot code, system configuration information, UEFI environment, Flash Disceptor, ME
iDRAC SPI Flash	SPI Flash	No	iDRAC Uboot (bootloader), server managment persistent store (i.e. IDRAC MAC Address, iDRAC boot variables), lifecycle log cache, virtual planar FRU and EPPID, rac log, System Event Log,
BMC EMMC	eMMC NAND Flash	YES	Operational iDRAC FW, Lifecycle Controller (LC) USC partition, LC service diags, LC OS drivers, USC firmware
Memory VDDQ, CPU Vcore and VSA Regulators	OTP(one time programmable)	No	Operational parameters
System CPLD RAM	RAM	No	Not utilized
System Memory	RAM	Yes	System OS RAM
<b>Power Supplies</b>			
PSU FW	Embedded microcontroller flash	No	Power Supply operation, power management data and fault behaviors

Item	How is data input to this memory?	How is this memory write protected?
<b>Planar</b>		
CPU Internal CMOS RAM	BIOS	N/A – BIOS only control
BIOS SPI Flash	SPI interface via iDRAC	Software write protected
iDRAC SPI Flash	SPI interface via iDRAC	Embedded iDRAC subsystem firmware actively controls sub area based write protection as needed.
BMC EMMC	NAND Flash interface via iDRAC	Embedded FW write protected
Memory VDDQ, CPU Vcore and VSA Regulators	Once values are loaded into register space a cmd writes to nvm.	There are passwords for different sections of the register space
System CPLD RAM	Not utilized	Not accessible
System Memory	System OS RAM	System OS
System Memory	System OS	OS Control
<b>Power Supplies</b>		
PSU FW	Different vendors have different utilities and tools to load the data to memory. It can also be loaded by Dell Update Package from LC or OS (Windows and Linux)	Protected by the embedded microcontroller. Special keys are used by special vendor provided utilities to unlock the ROM with various CRC checks during load.



**NOTE:** For any information that you may need, direct your questions to your Dell Marketing contact.

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