



Statement of Volatility – Dell PowerEdge M830/FC830

Dell PowerEdge M830/FC830 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 M830/FC830 server.

Item	Non-Volatile or Volatile	Quantity	Reference Designator	Size
Planer				
PCH Internal CMOS RAM	Volatile	1	U_WBGA	256 Bytes
BIOS SPI Flash	Non-Volatile	1	U_SPI_BIOS	16 MB
iDRAC SPI Flash	Non-Volatile	1	U_IDRAC_SPI	4 MB
BMC EMMC	Non-Volatile	1	U_EMMC	4 GB
BMC Memory	Volatile	1	U_IDRAC_MEM	2 Gb
CPU Vcore and Memory regulator	Non-Volatile	6	PU2, PU8, PU11, PU14, PU20, PU23,PU26,PU32,PU37, PU43	
System CPLD	Non-Volatile	1	U_CPLD_M, U_CPLD_S	2210 logic elements 1700 marcocells 272 IOs
System Memory	Volatile	Up to 12 per CPU	CPU1: DIMMA1~DIMMA12, CPU2: DIMMB1~DIMMB12, CPU3: DIMMC1~DIMMC12, CPU4: DIMMD1~DIMMD12,	Up to 32GB per DIMM (Up to 64GB per DIMM on post RTS)
Brawn M/FC Expander card				
Expander Firmware	Non-Volatile	1	U3	Flash: 128Mb
Expander FRU	Non-Volatile	1	U9	EEPROM: 16KB
M830 4x2.5" SATA Backplane				
SEP internal flash	Non-Volatile	1	U_SEP1	Flash: 32KB EEPROM: 16KB

Item	Non-Volatile or Volatile	Quantity	Reference Designator	Size
M830 4x2.5" SAS Backplane				
SEP internal flash	Non-Volatile	1	U_SEP1	Flash: 32KB EEPROM: 16KB

M830 12x1.8" SAS Backplane				
FRU EEPROM	Non-Volatile	1	U_BP_EEPROM	EEPROM: 16KB
M830 2x2.5" PCIe + 2x2.5" SATA Backplane				
SEP internal flash	Non-Volatile	1	U_SEP1, U_SEP2	Flash: 32KB EEPROM: 16KB
FC830 8x2.5" SATA Backplane				
SEP internal flash	Non-Volatile	1	U_SEP1	Flash: 32KB EEPROM: 16KB
FC830 8x2.5" SAS Backplane				
SEP internal flash	Non-Volatile	1	U_SEP1	Flash: 32KB EEPROM: 16KB
FC830 16x1.8" SAS Backplane				
FRU EEPROM	Non-Volatile	1	U_BP_EEPROM	EEPROM: 16KB
FC830 2x2.5" PCIe + 6x2.5" SATA Backplane				
SEP internal flash	Non-Volatile	1	U_SEP1, U_SEP2	Flash: 32KB EEPROM: 16KB
IDSDM Card				
IDSDM SPI flash	Non-Volatile	1	U_SPI	8Mb

rSPI flash	Non-Volatile	1	U_RSPI	4MB
rSPI Card				
rSPI flash	Non-Volatile	1	U_RSPI	4MB

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)
Planer			
PCH Internal CMOS RAM	Battery-backed CMOS RAM	Yes	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	Yes	iDRAC Uboot (bootloader), server managent 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
BMC Memory	RAM	Yes	iDRAC RAM.
CPU Vcore and Memory regulator	NVRAM	No	CPU Vcore and Memory controller
System CPLD	Flash	Yes	Power sequence controller and detection.
System Memory	RAM	Yes	System OS RAM

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)
M830 4x2.5" SATA Backplane			
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
M830 4x2.5" SAS Backplane			
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
M830 12x1.8" SAS Backplane			
N/A	N/A	N/A	N/A
M830 2x2.5" PCIe + 2x2.5" SATA Backplane			
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
FC830 8x2.5" SATA Backplane			
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
FC830 8x2.5" SAS Backplane			
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
FC830 8x1.8" SATA Backplane			
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
FC830 16x1.8" SAS Backplane			
N/A	N/A	N/A	N/A
FC830 2x2.5" PCIe + 6x2.5" SATA Backplane			

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)
SEP internal flash	Integrated Flash+EEPROM	Yes	Backplane controller
IDSDM Card			
IDSDM SPI flash	SPI Flash	Yes	Source code for IDSDM controller
rSPI flash	SPI Flash	No	rSPI function
rSPI Card			
rSPI flash	SPI Flash	No	rSPI function

Item	How is data input to this memory?	How is this memory write protected?
Planer		
PCH Internal CMOS RAM	BIOS	NVRAM_CLR jumper
BIOS SPI Flash	SPI interface via PCH	Software write protected
iDRAC SPI Flash	SPI interface via iDRAC	Software write protected
BMC EMMC	NAND Flash interface via iDRAC	Embedded FW write protected
BMC Memory	Memory interface via iDRAC	Not applicable
CPU Vcore and Memory regulator	OTP(one time programmable)	Not accessible
System CPLD	System OS RAM	System OS
System Memory	System OS	OS Control
M830 4x2.5" SATA Backplane		
SEP internal flash	Firmware + FRU	I2C interface via iDRAC
M830 4x2.5" SAS		

Item	How is data input to this memory?	How is this memory write protected?
Backplane		
SEP internal flash	Firmware + FRU	I2C interface via iDRAC
M830 12x1.8" SAS Backplane		
EEPROM	FRU	I2C interface via iDRAC
M830 2x2.5" PCIe + 2x2.5" SATA Backplane		
SEP internal flash	Firmware + FRU	I2C interface via iDRAC
FC830 8x2.5" SATA Backplane		
SEP internal flash	Firmware + FRU	I2C interface via iDRAC
FC830 8x2.5" SAS Backplane		
SEP internal flash	Firmware + FRU	I2C interface via iDRAC
FC830 16x1.8" SAS Backplane		
EEPROM	FRU	I2C interface via iDRAC
FC830 2x2.5" PCIe + 2.5" SATA Backplane		
SEP internal flash	Firmware + FRU	I2C interface via iDRAC
IDSDM Card		
IDSDM SPI flash	I2C interface via iDRAC	Software write protected



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