DELL EMC

Statement of Volatility – Dell EMC PowerEdge MX7000

This Statement of Volatility provides the information related to volatile and non-volatile components within the Dell EMC PowerEdge MX7000 Infrastructure. Volatile components lose their data when power has been removed from the system, whereas, non-volatile components continue to retain their data when the power has been removed.

The following table provides volatility information for the various modules within the MX7000. For volatility information on compute sleds and other I/O modules, see documentation specific to those modules.

Item	Non-Volatile or Volatile	Qty	Reference Designator	Size	Type (e.g. Flash PROM, EEPROM)	Can user programs or operating system write data to it during normal operation?	Purpose? (e.g. boot code)	How is data input to this memory?	How is this memory write protected?
Management Module (MM) comprised of EC + MSM Boards									
- **EC**									
Boot SPI + FRU	Non-Volatile	1	U211	32 Mb	EEPROM	No	Boot SPI for iDRAC, and EC FRU	Offline programmer	Embedded iDRAC subsystem firmware actively controls sub area based write protection as needed.
FPGA	Non-Volatile	1	U_FPGA	3.43Mb	Flash	No	MM Control Logic	FW update	Embedded FW write protection
EMMC	Non-Volatile	1	U_EMMC	8GB	Flash	No	BMC image	Offline programmer	Embedded FW write protected
- **MSM**									
Boot SPI	Non-Volatile	1	U143	128MB	EEPROM	No	Boot SPI	Offline programmer	SW write protected
FRU EEPROM	Non-Volatile Volatile	1	U131	512	EEPROM	No	FRU	Offline programmer	Hardware strapping
NIC	Non-Volatile	1	U_NIC_1	2Kb	NOR	No	Ethernet NIC	Factory programmed in PCBA Fixture	Not accessible
SVID Controller	Non-Volatile	1	U108	16KB	Flash	No	Programmable VR	Offline programmer	Not write protected
M.2 SSD	Non-Volatile	1	P_M2_CONN1	120GB	Flash	Yes	OS Boot drive	Factory programmed in SSD clone fixture	Embedded MSM FW controls sub area based write protection as needed
Right Control Panel									
rSPI	Non-Volatile	1	U_SPI_EC	32Mb	EEPROM	No	Chassis FRU, settings, and data used by MM	SPI interface via active MM	Active MM control only
USB SPI	Non-Volatile	1	U_SPI_USB	4Mb	EEPROM	No	USB Hub code	N/A	Active MM control only

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Left Control Panel (LED only)									
LED Controller	Non-Volatile Non-Volatile Volatile	1	U200	8K 64 512KB	EEPROM EEPROM SRAM	No	LED controller boot and run time code	I2C interface via active MM	Active MM control only
Left Control Panel (LCD only)									
LCD Controller	Non-Volatile Non-Volatile Volatile	1	U_MCU1	2048KB 160KB 512KB	EEPROM EEPROM SRAM	No	LCD Boot mode and Main Application	Boot loader – Off line Programmer. Main Application – Via EC over I2C	EC Active Control Only
Touch Controller	Non-Volatile Volatile	1	U_TouchPad 1	128KB 16KB	EEPROM RAM	No	Touch FW Touch Configuration	Touch FW programmed by Vendor, Configuration Programmed Offline via I2C	Factory Programmed. Field Upgrade via LCD Controller
Flash	Non-Volatile	1	U_Flash1	8MB	NOR	No	Extended LCD Controller Memory	Additional Storage for LCD	LCD MCU1 Only
Left Control Panel (LCD w/Quick Sync)									
Wi-Fi/BLE Controller	Non-Volatile Volatile	1	U_MCU1	2048KB 384KB	Flash SRAM	No	Wi-Fi/BLE Controller	Boot loader – Off line Programmer. Main Application – Via EC over I2C	Factory Programmed and iDRAC/EC Active Control Only
Power Supply									
Micro-controller	Non-Volatile	2	P/N H7TFG: IC805 and IC703 P/N 1W1TN: U300 and U502	Up to 64KB	Flash PROM and EEPROM	No	Report PSU information and control firmware	The data is flashed via Dell Update Package (DUP)	Using signature and manufacture key to write- protect the memory

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10GBASE-T Ethernet Pass-Through Module									
Micro-controller	Non-Volatile and Volatile	1	FReD	256K Flash 32K RAM	Flash/SRAM	No	Management, monitoring and control	I2C writes – EC/MSM FW updates	FW sections write protected in app mode
PHY Management Controller	Non-Volatile and Volatile	1 per IOM	U_MCU1	256K Flash 32K RAM	Flash/SRAM	No	Ethernet PHY Management and control	I2C writes – EC/MSM FW updates	FW sections write protected in app mode.
25 Gb Ethernet Pass-Through Module									
Micro-controller	Non-Volatile and Volatile	1	FReD	256K Flash 32K RAM	Flash/SRAM	No	Management, monitoring and control	I2C writes – EC/MSM FW updates	FW sections write protected in app mode
PHY Management Controller	Non-Volatile and Volatile	2 per IOM	U_MCU1 and U_MCU2	256K Flash 32K RAM	Flash/SRAM	No	Ethernet PHY Management and control	I2C writes – EC/MSM FW updates	FW sections write protected in app mode.

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