Statement of Volatility – Dell Latitude 3150

⚠ **CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

The Dell Latitude 3150 contains both volatile and non-volatile (NV) components. Volatile components lose their data immediately after power is removed from the component. Non-volatile (NV) components continue to retain their data even after power is removed from the component. The following NV components are present on the Dell Latitude 3150 system board:

Table 1. List of Non-Volatile Components on System Board

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
Embedded Flash in embedded controller MEC5085	U2401	288K byte of embedded Flash memory for keyboard controller BIOS code, asset tag and BIOS passwords.	No	NA
Panel EEDID EEPROM	Part of panel assembly	Non Volatile memory, 128 bytes. Stores panel manufacturing information, display configuration data.	No	NA
System BIOS	U2501	Non Volatile memory, 64Mbit (8MB), System BIOS and Video BIOS for basic boot operation, PSA (on board diags), PXE diags.	No	NA
System Memory – DDR3L memory	One Sodimm connectors: DM1	Volatile memory in OFF state (see state definitions later in text.) One module will be populated. System memory size will depend on Sodimm modules and will be between 2GB and 8GB inclusive.	Yes	Power off system
System memory SPD EEPROM	On memory SoDIMM(s) – one present	Non-Volatile memory 2Kbit (256 bytes). One device present on each SoDIMM. Stores memory manufacturer data and timing information for correct operation of system memory.	No	NA
RTC CMOS	CPU1	Non Volatile memory 256 bytes Stores CMOS information in PCH.	No	NA

Description	Reference Designator	Volatility Description	User Accessible for external data	Remedial Action (action necessary to lose data)
Video memory – frame buffer	UMA architecture- uses system DDR3L.	Volatile memory in off state. UMA uses main system memory size allocated out of main memory.	No	Power off
Hard drive(s)	User replaceable	Non Volatile magnetic media, various sizes in GB. May also be SSD (solid state flash drive)	Yes	Low level format
M.2 SATA	User replaceable	M.2 SATA 2260 SSD module	Yes	Low level format

All other components on the motherboard will lose data once power is removed from the system. Primary power loss (Unplug the power cord and remove the battery) will destroy all user data on the memory (DDR3L). Secondary power loss (removing the on board coin-cell battery) will destroy system data on the system configuration and time-of-day information.

In addition, to clarify memory volatility and data retention in situations where the system is put in different ACPI power states the following is provided (those ACPI power states are S0, S1, S3, S4 and S5):

- S0 state is the working state, where the dynamic RAM is maintained and is read/write by the processor.

- S1 state is a low wake-up latency sleeping state. In this state, no system context is lost (CPU or chip set) and hardware maintains all system contexts.

- S3 is called "suspend to RAM" state or stand-by mode. In this state the dynamic RAM is maintained. Dell systems will be able to go to S3 if the OS and the peripherals used in the system supports S3 state. Linux, Win 8.x and Win7 support S3 state.

- S4 is called "suspend to disk" state or "hibernate" mode. There is no power. In this state, the dynamic RAM is not maintained. If the system has been commanded to enter S4, the OS will write the system context to a non-volatile storage file and leave appropriate context markers. When the system is coming back to the working state, a restore file from the non-volatile storage can occur. The restore file has to be valid. Dell systems will be able to go to S4 if the OS and the peripherals support S4 state. Win 8.x and Win 7 support S4 state.

- S5 is the "soft" off state. There is no power. The OS does not save any context to wake up the system. No data will remain in any component on the system board, i.e. cache or memory. The system will require a complete boot when awakened. Since S5 is the shut off state, coming out of S5 requires power on which clears all registers.

The following table shows all the states supported by Dell Latitude 3150:

Model Number	S0	S1	S3	S4	S5
Dell Latitude 3150	X	X	X	X	X

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