Statement of Volatility - Dell OptiPlex 3280 All-In One

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

The Dell OptiPlex 3280 All-In-One contains both volatile and non-volatile components. Volatile components lose their data immediately after power is removed from the component. Non-volatile components continue to retain their data even after power is removed from the component. The following Non-volatile components are present on the OptiPlex 3280 All-In-One 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 prevent loss of data)
System BIOS	U21	Non-Volatile memory, 256 Mbit (32 MB), System BIOS and Video BIOS for basic boot operation, PSA (on board diags),	No	**NA**
System Memory- DDR4 memory	Two DIMM on board DDR4 memory: DIMM1/DIMM 2	Volatile memory in OFF state (see state definitions later in text) One or two modules will be populated. System memory size depends on DIMM modules and will be between 4 GB to 32 GB	No	Power off system
Hard-disk drive/Solid-state drive	User replaceable	Non-Volatile magnetic media, various size in GB	No	Low level format

⚠ **CAUTION: All other components on the system board lose data if power is removed from the system. Primary power loss (unplugging the power cord and removing the battery) destroys all user data on the memory (DDR4, 2666 MHz). Secondary power loss (removing the on-board coin-cell battery) destroys 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 SO, S1, S3, S4, S5 and Modern Standby):

SO 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 chipset) and hardware maintains all the 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 operating system and the peripherals used in the system supports S3 state. Ubuntu 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 operating system 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 must be valid. Dell systems will be able to go to S4 if the operating system and the peripherals support S4 state. Windows 10/8.1/7 supports S4 state.

S5 is the **soft off** state. There is no power. The operating does not save any context to wake up the system. No data will remain in any component on the system board, that is, 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.

Modern Standby is SO low power idle mode. Modern Standby enables an instant on/instant off user experience, like smartphone power models. Just like the phone, Modern Standby enables the system to stay up-to-date whenever a suitable network is available. On any Modern Standby system, the system remains in SO while in standby, allowing the following scenarios to work, Background activity and Faster resume from a low power state. On systems that can stay connected while in standby, wakes based on specific network patterns may also be set by the operating system to enable apps to receive the latest content such as incoming email, VoIP calls, or news articles.

The following table shows all the states supported by Dell OptiPlex 3280 All-In-One:

Model Number	SO	S1	S3	S4	S5	MS
Dell OptiPlex 3280	X		X (Ubuntu)	X	X	X