You may have wondered why the page file needs to have at least the size of the physical RAM for the system to be able to create a full memory dump. This is because the file system driver code in memory may be corrupted or the driver may even be the cause of the crash. With the page file, the system has a location on hard disk guaranteed to be available. When a memory dump is created during a blue screen the contents of the RAM is written directly to the sectors on disk occupied by the page file bypassing the file system driver. During the next boot process the session manager subsystem (SMSS.EXE) extracts the dump (and copies it to %SYSTEMROOT%\MEMORY.DMP) before the page file is put to its proper use.

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