

AppInit_DLLs should be renamed Deadlock_Or_Crash_Randomly_DLLs

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I have no idea why the window manager team added [this feature](#) to Windows NT. It basically says, “Hi, use this key to violate all the rules known to mankind about what can legitimately be done in a `DllMain` function. Oh, and be [an attractive malware attack vector](#), too.” I’ve debugged a few crashes that were traced back to the `AppInit_DLLs` key. What makes them particularly fun is that the offending DLL is usually not on the stack. Rather, the fact that a foreign DLL is being loaded inside `USER32`’s initialization code means that you’re violating the rule against calling `LoadLibrary` inside a `DllMain` function. The result of this madness is that DLLs get initialized out of order, and typically manifests itself in some DLL crashing trying to use an object (often a critical section) that it is supposed to have initialized in its `DLL_PROCESS_ATTACH` handler. It crashed because the loader got tricked into initializing DLLs out of order. The dependent DLL received its `DLL_PROCESS_ATTACH` before the prerequisite DLL. I end up looking at these failures because the victim DLL is often a DLL that my group is responsible for.

The window manager folks came to the same conclusion about `AppInit_DLLs`, and it doesn’t work any more in Windows Vista by default. ([Nick Kramer describes how to re-enable it.](#))

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