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[Forget about Windows Vista - Singularity, the Next Operating System from Microsoft](#)

A non-Windows microkernel

Deep in the research laboratories over at Microsoft, the Singularity platform is being built. As of yet, Singularity is merely a research operating system, but this is not to say that the project is not evolving or that future versions of Windows won't include the prototype's technology. However, Singularity is in fact a non-Windows operating system, and this is how the project is described by two Microsoft researchers working on Singularity: "Singularity is a research project focused on the construction of dependable systems through innovation in the areas of systems, languages, and tools. We are building a research operating system prototype (called Singularity), extending programming languages, and developing new techniques and tools for specifying and verifying program behavior," revealed researchers Jim Larus and Galen Hunt. Singularity is not a new prototype, as it has been debuted before Windows Vista, and the version 1 of the operating system is already complete, the team moving ahead to v2.0. The Singularity microkernel is an example of 100% managed code and of how Microsoft is drifting away from Windows. "Singularity uses type-safe languages and an abstract instruction set to enable what we call Software Isolated Processes (SIPs). SIPs provide the strong isolation guarantees of OS processes (isolated object space, separate GCs, separate runtimes) without the overhead of hardware-enforced protection domains. In the current Singularity prototype SIPs are extremely cheap; they run in ring 0 in the kernel's address space," reads a fragment of Singularity's description on Microsoft Research. In order to get a complete idea of the Singularity operating system prototype, Microsoft has made available four video fragments on the subject: [Singularity: A research OS written in C#](#), [Singularity Revisited](#), [Singularity III: Revenge of the SIP](#) and [Singularity IV: Return of the UI](#). Singularity is relevant because it offers an insight into the future potential development path that Microsoft could take for its Windows platform. I may have exaggerated a tad by referencing Singularity as the next operating system from the Redmond Company, but the project definitely has a future with Microsoft's platform.