

Real-Time Linux

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Abstract

Linux has the reputation that it's not suitable for real-time applications. It is certainly true that it was initially designed as a general-purpose multi-tasking operating system for use on a workstation and in computer centers for server applications. However, work is underway to make it more suitable for a variety of embedded applications, some with real-time requirements. Specifically, patches are available to reduce interrupt latency, to make the kernel preemptible, and to improve the overhead of the scheduler on real-time tasks. The resulting performance of Linux with each of these patches will be presented. Interrupt latencies of less than 30 microseconds and context switches of less than 300 microseconds will be shown.