Linux kernel adds real-time features

Richard Goering - October 12, 2006

SANTA CRUZ, Calif. — Embedded developers have long maintained real-time patch sets outside the mainline Linux kernel, but those days may be coming to an end, according to representatives of Linux developer service provider TimeSys Corp. That company announced Thursday (Oct. 12) that basic support for real-time features has been added to the mainline Linux kernel.

The new real-time features are available in the Linux 2.6.18 kernel, and will be further extended in future kernel releases. TimeSys, meanwhile, has expanded its LinuxLink developer service to include real-time Linux extensions.

Real-time performance enhancements available in the 2.6.18 kernel include priority inheritance support to prevent priority inversions, and extensions to the generic interrupt handling layer across all architectures, including embedded architectures such as ARM. Technology contributors include Ingo Molnar of Red Hat and Thomas Gleixner, senior open source developer at TimeSys. Additional real-time features that are currently available as patches will continue to be merged into subsequent kernels.

Customers subscribed to LinuxLink will have a solution that is based on the real-time technology in the 2.6.18 kernel release, the real-time preemption patch, and additional real-time enhancements that are in the process of being merged into the mainline Linux kernel, TimeSys said.

A LinuxLink subscription is a web-based service that provides tools, open-source code, technical reference information, and other embedded development resources. In addition to the latest Linux kernel, LinuxLink provides cross-compiled packages for target processors, a cross-development environment, source-level debugging support, and access to on-line and interactive support.

Linus Torvalds announced the release of the 2.6.18 Linux kernel Sept. 19, 2006.

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