

Pengutronix News Nr. 15

Linux-RT for Debian

The [RT-Preempt Project \[2\]](#) regularly provides patches which make Linux hard realtime: its aim is to eliminate all latency issues in the kernel. While doing so, the developers rework part after part of the patch for the Linux mainline and push it into the upstream quality process.

At Pengutronix, RT-Preempt kernels are being used in several industrial realtime & control projects. Most of the projects use full-custom embedded distributions, being integrated with the [ptxdist \[3\]](#) build system which makes it pretty easy to automatically apply patches to the kernel.

On larger x86 systems without boot time and footprint constraints, we also use conventional distributions. In order to make the RT-Preempt usage easier, Pengutronix dies now provide binary kernel packets for RT-Preempt on our Debian packet server [debian.pengutronix.de \[4\]](#).



The kernels which are being made available in our repository contain only the plain -rt patch but not the Debian provided standard kernel patches. Our aim is to provide the unmodified -rt kernels to the community and make it easy to directly generate bug reports against the upstream packets and give feedback to the maintainers.

A step-by-step manual which demonstrates how to install an RT-Preempt kernel on a Debian system can be found on our [Project-website \[1\]](#) on the Pengutronix server.



11. Realtime Linux Workshop

Between 28th and 30th september 2009, the realtime Linux community meets for the 11th workshop in Dresden. OSADL has provided a comprehensive agenda, and the Pengutronix Realtime Team is present with a booth.

- [1] Linux-RT for Debian:
http://www.pengutronix.de/software/linux-rt/debian_en.html
- [2] RT-Preempt Project:
<http://rt.wiki.kernel.org>
- [3] Embedded Linux Build System "ptxdist":
<http://www.ptxdist.org>
- [4] Pengutronix Debian Packet Server:
<http://debian.pengutronix.de>
- [5] OSADL Realtime Linux Workshop
http://www.pengutronix.de/events/20090928-Realtime-Linux-Workshop/index_en.html

Linux 2.6.31 for phyCORE-i.MX35

On September 9th, Linus Torvalds has released the 2.6.31 kernel. It contains 10881 change sets against the 2.6.30 version, and again over 200 companies worldwide have contributed to the kernel.



With support for the phyCORE-i.MX35 from Phytec, Pengutronix has added another platform based on the Freescale i.MX processor family to the Linux mainline. Users of hardware which is supported by the official kernel directly can gain benefits from the rapid development and bugfixing performed by the mainline kernel community.

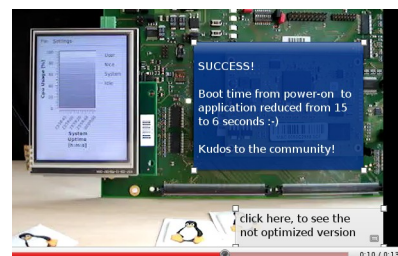
In the mean time the official kernel supports the MX35 derivative as well as the MX31, MX27 and MX21 variants. Other CPU models like the automotive-optimized MX25 (with CAN) are currently being prepared for 2.6.32 inclusion by the Pengutronix engineers.

Booting Linux Fast & Fancy

How do I boot a 400 MHz ARM in 6 s up to the graphical Qt application, without any flicker?

See more about our recent boot time optimization activities on YouTube:

<http://www.youtube.com/watch?v=F5Cb1sO4D8>



Events

Learn more about our services and about the Embedded Linux technology and visit us at one of the following events:

More information on: <http://www.pengutronix.de/events/>



28.-30.09.2009
Realtime Linux Workshop, Dresden

15.-16.10.2009
ELC Europe, Grenoble

24.-26.11.2009
SPS/IPC/Drives, Nürnberg

08.-10.12.2009
ESE Kongress, Sindelfingen