

Pierre Morel

France

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Embedded and realtime Linux expert

Personal Skills

Linux kernel and applications

Very deep and up to date understanding of the Linux kernel. Linux port on new architecture, on new boards (Linux BSP), communication's driver development and cryptographic API.

Realtime systems

Experience in realtime Linux using co-kernels (RTAI/Xenomai), Linux-RT or a realtime hypervisor (XtratuM/x-Hyp). Good understanding of realtime issues on modern SoCs, realtime schedulers, interrupt handling and memory management.

Participation to several international projects on realtime Linux and realtime hypervisors.

Embedded systems

Several years of experience in resolving issues between hardware and software in embedded systems, Linux or RTOS. Very good knowledge of the ARM-9 and Cortex-A/R/M architecture and a long experience in SoC programming.

University

DEA Instrumentation (1982)

Master of applied physics (1981)

Master of theoretical physics (1981)

Master of applied mathematics (1981)

Engineer of the Institut National Polytechnic de Grenoble (1981)

Languages

French (Mother language), English (fluent) and German (fluent)

References

Alfons Crespo (UPVLC Valencia), Giuseppe Lipari (Santa-Anna - Pisa), Apolinar Gonzales (University Colima - Mexico), Philippe Bergheaud (IBM France), Peter Duerr (Duerr Consulting Muenchen)

Teaching

since 2009

Linux Kernel and Linux Embedded training

Creation of training supports and teaching lessons for ORSYS (number 1 training organisation in France) and for MNIS.

2000 - 2004

Linux network security

Creation of training supports and teaching lessons for EPITA - Paris

Consulting

Since 2002

Realtime and Hypervisors

- **Bioreactor - 2014**: ARINC-654 realtime Hypervisor (X-Hyp) on ARM Cortex-A9, Linux port on the hypervisor. (Mexico)
 - **UWEP - 2010**: Realtime Hypervisor on ARM-9, port of FreeRTOS (Mexico)
 - **LCA - 2007**: port of a *record/replay* Linux kernel patch on S390 for IBM. (Germany, USA)
 - **OCERA - 2003**: Documentation coordination and development of realtime components for Linux/RTLinux (Tchekie/Italie/Spain)
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Since 1995

Linux kernel BSP and drivers

Linux and uBoot port on SH4 (Set-top Box), MIPS (payment system), ARM (Router, several Cell phones and a control-command system). Linux ARM architecture modifications for eXecute In Place.

Drivers for FPGA interface with Linux cryptographic framework integration, Ethernet NIC driver, several SPI and UART, ISO TP4 (Unix AT&T), SCSI(HP-UX), standard DMA, Linux frame buffer.

Studies: "Execute In Place Linux on Cortex-A15/A7 - 2014", "Running Linux in less than 6MB - 2013", "Cluster optimisation - 2013", "Filesystem comparison - 2010"

1995

Creating MNIS society and the first french Linux distribution

1983 - 1995

Freelance in France and Germany for UNIX systems

Siemens AG: ISO-TP4 driver and Ethernet driver for UNIX System V

Deutsche Telekom: Organisation of support level 2 for a national application

Thomson France: UNIX drivers for a ISO-TP4 card. Network boot-loader.

CSEE: ADC card development and drivers for OS9, X25 network and LapB drivers for OS9.