

## Alexandre BELLONI

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# EMBEDDED LINUX ENGINEER

## Work Experience

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- Mar. 2011** **ADENEO EMBEDDED**, Écully, France: **Embedded Linux and Android Technical Leader**  
Ported Android and developed drivers (NFC reader, GPRS modem) for the Freescale reference board i.MX53 QSB.  
Ported Linux on a custom board based on an LPC3250. Adapted the bootloaders (S1L, u-boot) and drivers (USB, LCD, RS485). Moved the distribution from LTIB to Buildroot.  
Developed a driver for an FPGA using two register interfaces and DMA transfers on the GPMC bus of an OMAP35xx.  
Corrected bugs in drivers (USB, i2c, NAND, suspend) on a custom OMAP34xx board using opportunistic suspend to reduce its power consumption.  
Corrected bugs in a virtual UARTs driver implemented in an FPGA on a board based on i.MX31.  
Realised and animated Embedded Linux and Android trainings in english.
- Mar. 2010-Dec. 2010** **TECHNICOLOR**, Edegem, Belgium: Contractor, **Generic Gateways Team**  
Linux MIPS environment using Broadcom 6362 (multicore DSL SoC).  
Ported and integrated Broadcom voice drivers (mostly DECT) in the Linux kernel.
- Dec. 2008-Feb. 2010** **SOFT AT HOME**, Wijgmaal, Belgium: Contractor, **Voice Team**  
Linux MIPS environment (Broadcom 6358, 6368 and 6362, Ikanos vx160 and vx180).  
Rearchitected and implemented the voice stack and services.  
Ported voice services on the Broadcom 63xx.  
Livebox Mini and Livebox 2 voice services maintenance following specifications from France Telecom.  
Livebox is the triple play box (DSL, TV and telephony) of France Telecom.
- Nov. 2007-Nov. 2008** **THOMSON**, Edegem, Belgium: Contractor, **Livebox Team**  
Linux MIPS environment using Broadcom 6348.  
LiveBox 1 maintenance.  
Implementation of France Telecom specifications.  
Bug fixes in the linux kernel (DECT/FXS, wifi and ATM drivers) and userspace.  
Ported a SIP stack on Livebox.  
Remote upgrades for Mobistar.  
Trained a team of three people and handover of the project.

**May 2005-Nov. 2007** **NETASQ**, Villeneuve d'Ascq, France: **ASQ/System R&D Team**  
FreeBSD (4.x, 5.4 and 6.0) environment on x86 architecture.  
Developed in-kernel the ASQ (packet filter, network address translation and intrusion prevention module).  
In charge of the VOIP and multimedia protocols (H.323, MGCP, SIP, IAX, RTSP, RTP, RTCP).  
Reworked and enhanced the SSL VPN.  
In charge of the network address translation module.  
Developed an authentication scheme using a PKI.  
Maintained the user authentication module and several core libraries.  
Migrated the SCM from CVS to SVN.

## Computer Skills

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**Environments** Good knowledge and daily use of Unix Systems (GNU/Linux, \*BSD).  
Embedded Linux, mostly on ARM and MIPS architectures, bootloaders (u-boot, barebox), Android.

**Development** GNU Tools (GCC, GDB, binutils, make, autotools), cross-compilation.  
minicom, busybox, uClibc, valgrind, JTAG (lauterbach and wiggler).

**Languages** Good knowledge of C, shell scripts.  
Basic knowledge of C++, Python, ARM and MIPS assembly.

**Network** OSI model, TCP/IP, DSL, ATM, ethernet, PPP.  
Application layer protocols: DHCP, DNS, NTP, HTTP, FTP, POP, IMAP, IRC, SIP, MGCP, H.323, IAX.  
Usage of Spirent Avalanche/Reflector and SmartBits.

**Security** Good knowledge of cryptography mechanisms (symetric, assymetric), PKI, OpenSSL and associated standards. Common criteria.

**SCM** CVS, subversion, ClearCase, Perforce, Git.

**Bugtracking** Mantis, ClearQuest, Bugzilla.

## Education

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**June 2005** NETASQ Certified Administrator

**Jan. 2005-May 2005** Université de Sherbrooke, Canada  
Study session in the engineering faculty.

**2000-2005** UTBM - Université de Technologie de Belfort-Montbéliard. Engineer degree and Master of Science Degree in Computer Science.

## Languages

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**French** Mother tongue.

**English** Written, read and spoken fluently, daily use at work.

## Personal interests

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**2006** Translation of *Asterisk : The Future of Telephony* for O'Reilly editions (ISBN : 2-84177-394-9)

**Hobbies** Photography, Travels, Scuba diving, Snowboarding, Snowkiting.