

Nathan Laredo

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Experience

- 15 years x86 assembly coding and debugging including reverse engineering
- 15 years low-level PC platform programming (8251, 8254, 8255, 8259A, 146818, 16550)
- 14 years X Window System application development (Xlib, Xt, Xaw, Xv)
- 14 years programming using the FSF toolchain (gcc, gas, make, awk, sed, cvs)
- 14 years PostScript language programming
- 13 years Linux kernel development, including video capture and MPEG-2 playback drivers
- 13 years network client and server application development including C implementations of FTP, HTTP, SMTP, IRC, POP3, IMAP, and SSH
- 11 years digital audio signal analysis and codec development
- 7 years MPEG-2 and DVD full software codec development (reverse engineered)
- 6 years analog and digital video expertise including NTSC, ATSC A/53 (HDTV)
- 4 years XFree86 graphics and input device driver development
- 4 years Win32 application and NT/2K/XP device driver programming in C
- 1.5 years firmware development including LinuxBIOS, InsydeBIOS and a custom bios
- 4 years USAF Surgical Services Specialist

Employment History

- 12/04-08/05 **Firmware Engineer, Orion Multisystems, Santa Clara, California**
Developed and maintained BIOS code for x86 personal computing clusters
Wrote new ALI1563 SMBUS driver for both LinuxBIOS and InsydeBIOS
Developed new firmware SMM thermal management code
Wrote new PCI bus enumeration and resource allocation code
Wrote new ACPI ASL for InsydeBIOS for Orion's platform
Wrote new BIOS flashtool capable of linux-hosted flash and embedded flash
Documented low level platform design issues
Wrote several platform debug tools to assist in bringup of new hardware
Debugged new hardware; developed firmware/hardware bugfixes
Learned to unicycle
- 11/99-12/04 **Member of Technical Staff, Transmeta, Santa Clara, California**
Developed Linux and Windows drivers and applications
Developed an internal reference Linux software DVD player
Optimized third party DVD players for the Crusoe platform
Developed an internal Transmeta BIOS for Crusoe and Effic on
Reverse engineered hardware and software through PCI bus traces and ICE
Developed Transmeta Virtual Machine technology (vmware-like) for Effic on
- 1999 **Senior Linux Developer, Stradis, Atlanta, Georgia**
Developed a hardware MPEG-2 decoder driver
- 1996-1999 **System Administrator, Weststar Title Company, Dallas, Texas**
Maintained a hybrid Windows NT and Linux network under contract
- 1995-1999 **Surgical Services Specialist, United States Air Force**
Wilford Hall Medical Center, Lackland AFB, Texas
- 1993-1994 **Technical Support Representative, Murata/Muratec, Plano, Texas**
Provided toll-free fax machine technical support (in French and English)
- 1991-1993 **Programmer/Analyst II, Dept. of Earth and Atmospheric Sciences**
Georgia Institute of Technology, Atlanta, Georgia
Developed X11-based atmospheric data analysis tools

Personal Projects

MPEG-2/DVD player, Linux MIDI player (PlayMIDI), audio oscilloscope with FFT, digital audio and video effects tools for Linux, DVD database author, prolific DSLR photographer, Linux Kernel Archives (kernel.org) maintainer (server configuration, web pages, etc.)

Patents

- Co-Inventor: Two patents in the area of virtual machines (filed 9/2003, 12/2004)
Unable to disclose details during review

Education

- 1991-1993 **Georgia Institute of Technology, Atlanta, Georgia**
Studied both Computer Science and Electrical Engineering

Foreign Languages

- French** 8 years study, 1 year work-related use
- Japanese** 2 years study, very limited kanji