

Timothy Mario Redaelli

✉ timothy@redaelli.eu • 🌐 redaelli.eu

Summary

Linux distribution maintainer and kernel networking engineer with 19+ years in embedded, distribution and enterprise systems. Networking kernel submaintainer, RPM package maintainer (also AUR and Portage) and upstream contributor to Open vSwitch, DPDK and Wireshark. I work in C and POSIX shell, build CI and packaging pipelines, and use immutable OS tooling (OSTree/rpm-ostree) and Btrfs (snapshots, send/receive).

Work experience

Red Hat

Principal Software Engineer, Italy

Milan

October 2025 – current

Networking services team. Promoted for my maintainer and submaintainer work; now I do more upstream work and mentoring.

Notable activities:

- Networking kernel submaintainer; package maintainer for Open vSwitch, DPDK, driverctl and pf-bb-config on Red Hat and Fedora
- More upstream work: Open vSwitch features, and I added the Open vSwitch Generic Netlink dissectors to Wireshark
- Mentor teammates on the internal packaging and backport process

Red Hat

Senior Software Engineer, Italy

Milan

March 2020 – September 2025

Networking services team; kernel networking submaintainer and package/upstream maintainer.

Notable activities:

- As networking kernel submaintainer, I rely on the CI that gates every kernel merge request (2021), so regressions are caught before they are merged. I also check that each merge request applies cleanly to the kernel, fixing the merge myself or asking the submitter to redo it.
- Built and maintain the internal Open vSwitch package CI (2021): auto-rebases on upstream stable branches and produces tested package builds on every commit; this made releases and security backports faster for *OpenShift*, *OpenStack* and other Red Hat products, even with more branches to maintain
- Package maintainer (Open vSwitch, DPDK, etc.) and regular upstream contributor

Achievements:

- Co-discovered and fixed *CVE-2023-3966* (CVSS 7.5, high), a denial-of-service in Open vSwitch's Geneve hardware-offload path; handled the coordinated disclosure under embargo and backported the fix to the shipped releases

Red Hat

Software Engineer, Italy

Milan

January 2017 – February 2020

Joined the networking services team to take over Open vSwitch and DPDK package maintainership (Red Hat and Fedora), replacing the previous maintainer. Ramped up on the upstream workflow through incremental fixes and reviews, and became networking kernel submaintainer in 2018.

ADB Broadband S.p.A. (formerly Pirelli Broadband Solutions S.p.A.)

Senior Software Engineer, Italy

Milan

November 2010 – December 2016

Development of the Linux-based embedded software platform for broadband access products

Notable activities:

software entirely designed and developed by me in ANSI C and POSIX shell script

- IPv6 support on broadband gateways for residential market: configuration framework for core networking protocols, *DHCPv6*, *SLAAC*, IPv6 services and applications. *iptables*-based suite for firewall configuration and traffic classification. Bug hunting in Linux kernel and IPv6-related opensource applications
- A complete suite for Intellectual Property protection, based on public key infrastructure for distributed, in-field CPE access with centralized authentication, software images signing and verification
- A lightweight, portable *UDP Echo Plus* client in ANSI C
- Bug hunting in networking applications, such as *point-to-point protocol* daemon, *DNS* and *DHCPv4/DHCPv6* servers, etc
- Support for VoIP statistics harvesting from embedded call manager and interface for in-kernel *RTP* flows manager

secondary tasks: migrated the source repository from *svn* to *git* (deployed Gerrit Code Review); development-server and network administration (*Alcatel-Lucent ISAMs*, *Cisco* routers); supervised internal security assessments and patch porting.

Achievements:

- Networking components I built are deployed on half a million devices in European households, enabling complex native and tunneled IPv6 scenarios
- Provided a generic framework for software authenticity, tamper avoidance and secure remote debugging, now used across all new CPE deployments (10+ products on different software distributions)
- *Broadband Invision Award 2012*, Broadband Home category, for the software platform

Pirelli Broadband Solutions, contractor for Spazio Zerouno S.p.A.

Milan

Software Engineer, Italy

September 2009 – November 2010

Embedded Linux kernel/userspace development for set-top boxes and broadband gateways (Sigma 8654, Intel CE3100/CE4100, Broadcom BCM96328 *SoC*); ported Moblin/Meego to CE4100. Introduced a new STB platform on a short timeline and met quality targets for residential gateways, contributing to 300,000+ devices shipped to Tier-1 European/LATAM *ISPs*.

Skytechnology, Effebi, Cutaway, Unico

Milan

Earlier roles, Italy

November 2005 – January 2009

- *Skytechnology* – embedded development: *SIL4* (IEC 61508/61511) BSP for *COTS* boards, *PROFIBUS* bootloader for an *ERTMS/ETCS* train control board (dual Freescale 68360), *ARM Nomadik* porting via buildroot; Asterisk/PostgreSQL VoIP platform
- *Effebi* – customization of *FreeNAS*, a FreeBSD-based *NAS* platform
- *Cutaway* – GNU/Linux cluster/failover administration and *Ruby on Rails* web development
- *Unico* – system administration; Novell NetWare to Active Directory migration

Opensource software contributions

Please check my Open Hub profile for a complete record of my contributions (2,000+ commits across 90+ projects) at <https://www.openhub.net/accounts/drizzt>

Arch Linux

Linux distribution (<http://www.archlinux.org>)

Trusted User, Maintainer

December 2011 – September 2017

Maintainership of 32 *Arch Linux* packages in the *community* repository

See web.archive.org/web/20141201024818/archlinux.org/packages/?maintainer=tredaelli for the list of packages I used to maintain

Gentoo Linux

Linux distribution (<http://www.gentoo.org>)

Developer, Maintainer

October 2006 – April 2009

- *Gentoo/Alt* (Gentoo on alternate platforms) lead
- *Gentoo/BSD* and *Gentoo/FreeBSD* (Gentoo integration with BSD kernel and userland) deputy lead
- Member of *net-im* (instant messaging applications), *ppc* (Gentoo on PowerPC platforms) and *voip* (VoIP services) *herds*

FreeSBIE **FreeBSD-based Live CD distribution (<http://www.freesbie.org/>)**
Developer *October 2005 – October 2006*
 Improved CD filesystem creation by factoring out code.

Mercurygram **Unofficial, FOSS-friendly fork of the Telegram client for Android**
Author, Maintainer *December 2023 – current*
 Author and maintainer of Mercurygram, a privacy-focused fork of the Telegram Android client (Java): de-googled, with Tor integration, on-device voice transcription and proxy hardening, kept current by rebasing on upstream Telegram

Education

Emaze Networks S.p.A *2014*
Device Security course

BMC Software Education Services *2008*
BMC BladeLogic Operations Manager course

ITIS E. Majorana **Cesano Maderno, MB** *2004*
Secondary School diploma in Electronics and Telecommunication, Italy

Presentations

2024: Talk "OSTree for fun and profit" at Linux Day Milano 2024.
 The talk was about OSTree and rpm-ostree.

2024: Lightning talk "Timestamping with opentimestamps" at FOSDEM 2024.
 The talk was about timestamping, blockchain, opentimestamps and proofmode.

Languages

Italian: Native

English: Professional proficiency

Technical skills

Operating Systems: GNU/Linux, FreeBSD, Microsoft Windows, Mac OS X (Apple Darwin)

Programming languages: C, MIPS assembly, ARM assembly, Python, Perl, POSIX Shell, PHP, Ruby, Ruby on Rails, Expect, JavaScript/ECMAScript

Build & packaging: RPM, GitLab CI, GitHub Actions, Jenkins, Koji, Mock, COPR

Debugging tools: GDB, KGDB, Valgrind, JTAG/EJTAG protocols, Lauterbach T32

Administration: BMC BladeLogic, GNU/Linux systems, Alcatel-Lucent CO and Cisco equipment

Databases: PostgreSQL, MySQL, SQLite

Interests

Free software: Volunteer for the Free Software Foundation Europe (FSFE)

GNU/Linux: Distributions and packaging across Arch Linux, Fedora and beyond