

# Curriculum Vitae

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<https://rocketgit.com/user/catalinux>

## Last graduated school

Computer Science / Transilvania University (1997)

## My graduation diploma

Distributed networks and task migration ([M]PVM)

## Work experience

Apr 2024 – Mar 2026 – **Kronsoft Development** Brasov

### Technical Architect

Tasks:

Designing architectures for several big projects (healthcare etc.)

Jan 2021 – Apr 2024 – **Tremend Software Consulting** Brasov

### Technical Architect

Tasks:

Designing architectures for several big projects (web, retail etc.)

Aug 2016 – Jan 2021 – **Team Qaleido Software** Brasov

### Programmer and system/network administrator

Tasks:

Building a custom cloud architecture based on Ceph, libvirt (OpenNebula) and KVM  
Linux kernel tuning  
DevOps (ansible all deployments)  
Managing a big farm of Linux servers  
Maintenance for several PHP applications

Oct 2012 – Aug 2016 – **FlashNet** Brasov

### Programmer and system/network administrator

Tasks:

Developing code for LoRaWan network: network manager and application dispatching  
Developing concentrator side for some PLC (power line communication) protocols  
Taking care of 40 Linux servers and several Cisco routers  
Maintaining images for routers (based on OpenWRT distribution)  
Cross compiling applications for MIPS and ARM based routers.

Jul 2005 – Sep 2012 – **Route 66** Brasov

### Project manager, programmer and system/network administrator

Tasks:

My work was used by millions of clients (from Nokia, Samsung, HTC)  
Scalable client/server applications for off-board navigation (**C**)  
Scalable distributed activation services (**C**, **PHP** and **SQL**)  
Server farm administration (**Linux**)  
Road traffic server programming and administration (**PHP**)  
Web statistics for activations and road traffic (**PHP** and **SQL**)  
Porting Linux kernel to an ARM based platform  
VoIP telephony network (**Asterisk**)

Oct 2001 – Jul 2005 (4 years) - **Romania Data Systems** Brasov (ISP)

### Project manager, programmer and system/network administrator

Tasks:

Client/server app for national wide network monitoring (**C** and **PHP**).  
Traffic control (HTB, rtnetlink) (**C**).  
Network/security modules for Linux kernel (**C**).  
Domain name server and MySQL integration (**C**).  
SNMP and graphics for cable modems level monitoring (**C** and **PHP**).  
Source control system implementation (subversion).

Sep 1997 - Oct 2001 (4 years) – **Deuroconsult** Brasov (ISP division)

**Technical manager, system/network administrator and programmer**

Tasks:

Implementation of a Distributed User Management System using **MySQL, PHP** and **C**  
Development of the technical page (user tracking, payments, invoices, logins etc.) using **SQL, PHP** and **HTML**.  
Administration of 10 Linux servers, 1 Cisco router and other equipment.  
Implementation of multi-homing with 2 providers using zebra on Linux and Cisco for BGP and OSPF.  
Implementation of QoS using CBQ, TBF, RED on Linux routers.  
Implementation of Differentiated Services on Linux routers.

Sep 1995 - Sep 1997 (2 years, during studies) - **Ecran Magazin** Brasov

**Desktop publishing engineer**

Tasks:

I worked in the pre-press department in the DTP lab.  
I managed a Windows, Mac and Linux network (disk, printer and Internet sharing).  
I used PageMaker, Quark and PhotoShop (PCs & Mac).

1993 - 1994 (1 year, during studies) - **Monitor Mediafax** Brasov

**Desktop publishing engineer**

Tasks:

I used PageMaker and Word in the pre-press division.

## Achievements

Several free-software projects

<https://rocketgit.com/user/catalinux>

Several contributions to Linux kernel (accepted in mainline)

- I co-authored **sch\_netem** (see kernel >= 2.6.8-rc1)
- I added **u32 nfmark match**
- At least one of them used by MediaWiki organization
- See also <http://kernel.embedromix.ro/kpatches/>

Design network for a datacenter (BGP EVPN, VxLAN, LACP/MLAG)

Several GPLv2/3 projects:

check <http://kernel.embedromix.ro/us/>  
some of them published on FreshMeat (now FreeCode):  
<http://freshmeat.net/projects/dinouml/>  
<http://freshmeat.net/projects/noca/>  
[http://freshmeat.net/projects/sch\\_dup/](http://freshmeat.net/projects/sch_dup/)  
[http://freshmeat.net/projects/sch\\_ooo/](http://freshmeat.net/projects/sch_ooo/)  
[http://freshmeat.net/projects/sch\\_log/](http://freshmeat.net/projects/sch_log/)  
<http://freshmeat.net/projects/sesoma/>  
<http://kernel.embedromix.ro/kpatches/>  
<http://freshmeat.net/projects/pwatch/>  
All freshmeat projects: <http://freshmeat.net/~catalinboie/>

Git web hosting commercial project (but under Affero GPL):

<https://rocketgit.com/>

Giving Linux and Solaris classes for a big international company.

Project manager of the IT division of a big Romanian health company (2001 - 2010).

Contributions to several FLOSS projects: asterisk, iproute2 etc.

Web - Gnutella (peer-to-peer network) bridge (project done for an Italian company).

Music/bands web portal (for an Italian company).

Fake POP3 server (for an American company).

## Skills

Operating systems

Linux (since 1994) - expert  
FreeBSD (since 2004) - medium  
Plan9 (since 2004) - medium  
Solaris (since 2005) - medium  
ContikiOS (since 2012) – medium  
OpenWRT (since 2010) - expert

Programming languages

C (since 1991) - expert

PHP (since 1999) - expert  
Assembler (x86, mips, arm) - advanced  
Java (since 2002) - medium

#### Databases

PostgreSQL (since 1998) - advanced  
MySQL (since 1999) - advanced  
Sqlite (since 2004) - advanced  
Berkely DB - medium

#### Web development

Websocket and custom built JS framework (since 2020)  
<https://rocketgit.com/user/catalinux/stupidframework>  
CGI (since 1999)  
C, PHP, Perl, shell, MySQL, PostgreSQL, speed, size and security  
  
HTML/CSS (since 1998)  
Web design  
  
Image processing & 3D (since 1996)  
Gimp, PhotoShop, Blender, Scribus

#### Networking

IPv4 & IPv6, VLANs, VXLANs, bridges  
Diskless workstations, Ceph, NFS, Samba, GlusterFS  
VPNs, Tunnels, NAT, multicast  
High-performance client/server applications  
QOS (Netem, HTB, CBQ, TBF)  
Differentiated services  
IPSec  
Policy routing, BGP (+EVPN), OSPF  
Firewalls (ip[6]tables, ebtables)  
P2P technology  
Traffic dissection (tcpdump, wireshark)  
Implemented RPL (Ripple – meshing protocol) by reading the RFC  
Cumulus Linux (since 2017)  
eBPF (since 2023)

#### Infrastructure-as-Code

Ansible (since 2019)

#### Distributed programs & clusters

Ceph (since 2017)  
PVM  
9grid

#### Virtualization

user-mode-linux - building/running a lot of Linux virtual machines  
libvirt/qemu/KVM - emulation of different OSs

#### Security:

SELinux (admin and policy writing)  
Familiar with top security problems for code (XSS, SQL injection, XSRF etc.)

#### Performance and optimization analysis

perf  
valgrind (memcheck & helgrind)  
strace

#### SCM

git (used for Linux kernel development and a lot of other projects)  
subversion

#### Telephony

Asterisk

#### Teaching abilities

Linux (all levels)  
Programming (all levels)  
Security (all levels)  
Solaris (for beginners and middle level)

## Languages

English (good)  
Romanian (native language)

## Personal info

I do not smoke and don't drink coffee.  
I do not take care of personal things at work.  
Easy adaptability and integration as individual or in a team.

## Hobbies

Programming, microcontrollers

## Other things

My style:

- ZeroAI – I do not use AI in any way
- unit testing “rules” (also for deployments)
- always check error codes
- short functions, 80 chars lines, code must be easy to read even if larger, no code duplication
- valgrind “rules”
- love bug hunting (especially hard ones)
- backward compatibility is critical
- learn something every day

Plans for future: fastest open source web server in the world, improving RocketGit, more contributions to Linux kernel.

I have a driver license (category B).

You can find the last version of this CV at: <http://kernel.embedromix.ro/cv/>

Sites that I read daily: planet.kernel.org, lwn.net, phoronix.com, news.ycombinator.com, planet.postgresql.org and osnews.com.

My name without localization: Traian-Catalin BOIE.

CV version: 2.19