Curriculum Vitae

First name: Traian-Cătălin
Last name: BOIE
Birth date: 2 August 1975
Mobile phone: +40-745-048374
E-mail: catab@embedromix.ro
Address: Independentei 94, bl. 336, sc. C, ap. 6
                500157 Brasov
                Romania
Web: http://kernel.embedromix.ro/

Last graduated school

Computer Science / Transilvania University (1997)

My graduation diploma

Distributed networks and task migration ([M]PVM)

Work experience

Jan 2021 – Today – **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:
  Builing a custom cloud architecture based on Ceph, libvirtd (OpenNebula) and KVM
  Linux kernel tuning
  DevOps (ansiblify 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 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)

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_ooo/
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**

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
CGI (since 1999)
C, PHP, Perl, shell, MySQL, PostgreSQL, speed, size and security

HTML (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)

Distributed programs & clusters
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:
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, linuxtoday.com and osnews.com.

My name without localization: Traian-Catalin BOIE.

CV version: 2.16