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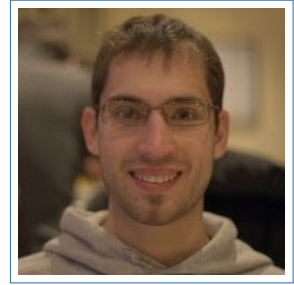
Work Experience

June 2016 – now

One Man Army, *AdminCup (no site yet)*.

I always dreamed about having a nice pet project and here the dream come true :). It's a e-learning system for system administrator. The first demo is yet on its way, but I can summarize the technologies I'm using:

- PostgreSQL + SQLAlchemy for database
- ZeroMQ for RPC
- aiohttp (Python) + nginx for backend
- Ansible for deployment / automation
- QEMU / LXD for isolation and containers

Nov 2015 – now

Infrastructure Architect, Backend Developer (Python), *CoDesign.IO*.

I have two roles in this project: software developer and infrastructure architect. As a developer, I work on our Django backend (Python). As an infrastructure guy I do ... well, pretty much everything required to run our production platform :). My duties and contribution:

- **Backend:** database query/layout optimization, caching, code sanitizing (pyflakes, autopep8), tests (py.test)
- **Infrastructure:** migration to private infrastructure, backups, monitoring, infrastructure-as-a-code (saltstack)
- **General duties**: architecture design and implementation, documentation, code review, supervision of interns, customer support.

Jul 2014 – Jan 2015

Site Reliability Engineer, *Google*, London, UK.

Support of AdWords/Double-click backends. Some highlights:

- Developed team-wide Service Level Objectives (SLO)
  - Defined objectives for supported projects
  - Created general guidelines for new projects
  - Designed and implemented SLO dashboard (*Python* and *JS/JQuery/NVD3*)
- Implemented script that exported job parameters to team dashboard (*Python*)
  - Queried database for running and recently terminated job
  - Parsed config files for periodic ("cron") jobs
  - Performed sanity checks: permission problems, duplicate jobs and other checks
- Maintained high SLO
  - Configured monitoring and alerting systems
  - Resolved production issues
- General duties:
  - Standardization and unification of production configuration
  - Review of proposed system designs
  - Performance analysis

Nov 2007 – Jul 2010

Senior Unix Administrator, *Agava Company*, Moscow, Russia.

- Managed a team of four system administrators
- Solved the most complicated technical problems
- Consulted VIP-clients and provided them with personal support
- Gave trainings and seminars for system administrators on the following topics:
  - Understanding Nginx and "10k clients" problem
  - Using tcpdump to watch traffic
  - Basic database tunning and optimization
  - Right backup strategies

| Oct 2005 – | **Unix Administrator**, *Agava company*, Moscow, Russia. |
| Nov 2007 | Standard requirements and duties of a system administrator. |

Education

2010 – 2016	**PhD**, *Telecommunications*, University of Trento, Italy.
	Thesis: "Application Interference in Multi-Core Architectures: Analysis and Effects"
2006 – 2010	**MSc**, *Computer Science*, University of Russian Academy of Education, Moscow, Russia.

Selected Personal Projects

Qemu named interfaces: Assign meaningful names to tap interfaces: `https://github.com/kopchik/patches/blob/master/qemu_ifname.patch`

Virtual Machine Commander: a tool to orchestrate multiple virtual machines at once: `github.com/kopchik/vmc`

Parallel Downloader: downloads chunks in order so video files can be viewed before they completely downloaded: `github.com/kopchik/pdl`

IPv4/IPv6 proxy: enables IPv6 for legacy applications: `github.com/kopchik/proxy64`

Publications

A. Kandalintsev and R. Lo Cigno. A Behavioral First Order CPU Performance Model for Clouds' Management. In *Proc. of ICUMT'12*, 2012.

A. Kandalintsev, R. Lo Cigno, and D. Kliazovich. Profiling Cloud Applications with Hardware Performance Counters. In *Proc. of ICOIN'14*, 2014.

A. Kandalintsev, R. Lo Cigno, and D. Kliazovich. Estimation of performance isolation in cloud environments (submitted). *Software: Practice and Experience*, 2015.

Skills

Programming	**Advanced:** Python
	Intermediate: shell scripting
	Basic skills: SQL, Java, JavaScript/LiveScript, C, C++
Tools	Valgrind, GDB, Qemu/KVM, Docker/LXC/LXD, perf, SaltStack, OpenVpn, VCS and other tools

Languages

| English | fluent (C1) |
| Russian | native |

Hobbies

DIY electronics (STM32 microcontrollers, robot platforms, linear power supplies, interaction with the real world).