

Alexandre Kandalintsev

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github.com/kopchik

Work Experience

- Nov 2015 – **Backend developer, infrastructure engineer, CoDesign.IO** (*startup company*).
now Backend developer, infrastructure architector. Backend is on Python using Django+REST, data stored in MySQL and Amazon S3. Resources are provided by Heroku, Amazon and other IaaS/PaaS providers. My duties and contribution:
- **Backend:** database query/layout optimization, caching, code sanitizing (pyflakes, autopep8), tests and continuous integration
 - **Infrastructure:** migration to private cloud (to cut the costs), automated backups, monitoring, store configuration in git
 - **General duties:** architecture design, documentation, code review, supervision of interns.
- Jul 2014 – **Site Reliability Engineer, Google**, London, UK.
- Jan 2015 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
 - System tuning
- Nov 2007 – **Senior Unix Administrator, Agava Company**, Moscow, Russia.
- Jul 2010
- 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:
 - Apache web server course
 - Understanding Nginx and “10k clients” problem
 - Using tcpdump to watch traffic
 - DDoS defense methods
 - Basic database optimizing
 - Right backup strategies
- Oct 2005 – **Unix Administrator, Agava company**, Moscow, Russia.
- Nov 2007 Standard requirements and duties of a system administrator.
- Feb 2005 – **Junior Unix Administrator, Agava Company**, Moscow, Russia.
- Oct 2005 Provided the first line full-time technical support. Assembled, installed and maintained equipment in data centers.

Education

- 2010 – 2016 **PhD (defense March 2016)**, *Telecommunications*, University of Trento, Italy.
Thesis: “Fighting Application Interference”
- 2006 – 2010 **MSc**, *Computer Science*, University of Russian Academy of Education, Moscow, Russia.
- 2003 – 2005 **BSs (3 semesters)**, *Computer Systems and Networks*, Bauman Moscow State Technical University, 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

OS Linux, FreeBSD

Programming **Advanced:** Python

Intermediate: shell scripting

Basic skills: SQL, Java, JavaScript/LiveScript, C, C++

Tools Valgrind, GDB, Qemu/KVM, perf, OProfile, OpenVpn, VCS and other tools

Languages

English fluent (C1)

Russian native

Hobbies

DIY electronics (microcontrollers, robot platforms and interaction with the real world).