John Khvatov

Personal Data

Place and Date of Birth:	Saratov, Russia | 08 January 1989
Address:	Moscow, Russia (relocation is possible)
Phone:	+7 917 3255496
email:	ivaxer@gmail.com
LinkedIn profile:	ivaxer

Areas of interests

- VoIP
- Distributed systems
- Data storages
- Modern programming languages

Work Experience

Software Developer, Undev, October 2011 — Present

TBD.

Software Developer, Saratov State University, PRCNIT, July 2008 — Present

PRCNIT (Povolzhsky Regional Centre of New Information Technologies) is a division of Saratov State University, which operates in the IT-sphere. I work in the network and telecomunication systems department, which mainly deals with the developing of University infrastructure and testing of new technologies. Among my responsibilities are:

- VoIP telephony development. I have worked on VoIP telephony design and development for the University. When I joined the University the telephony included three analog PBXes (three buildings were covered) connected via Asterisks (IAX2), one PBX was connected to PSTN gateway via E1. Now the telephony system is based on SIP protocol with OpenSIPS as registrars and proxis, FreeRADIUS as OpenSIPS backend for AAA and Asterisk as gateways to legacy analog PBXes. The telephony system scales for the University requirements, it is easy manageable, fault tolerant.
- Infrastructure management software creation. Here are some pieces of software that I've written:
  - Column based storage in Scala for storing netflow data (source code). The project is still at an early stage but first results show decrease in disk space usage by 30%. It's planned 50-60% after the all features are implemented.
  - virt-platform — lightweight platform for creating private clouds (source code). The platform is based on libvirt. It's designed to extend libvirt while maintaining its flexibility, support several storage backends (it currently supports only DRBD, Ceph/RBD is planned).
  - Software for provisioning Linksys SPA SIP-phones (source code). Spaconf is implemented as a WSGI application that receives phone's parameters from an internal database, generates phone config as described in specification from Linksys, crypts and sends config back to the phone. Spaconf was deployed to production two years ago.

  - Module for FreeRADIUS in Python, which works as AAA backend for HP procurve switches (source code).
  - Dozens scripts in Python for automation, data processing and monitoring.
- Testing and introducing new technologies and infrastructure. Open source technologies that I implemented included RPM build system (extended Plague to support the packages building directly from GIT repository), GIT hosting (gitosis), Hudson(Jenkins) CI.
- Refactoring, improvement of performance, localizing memory leaks in open source software that we use (OpenSIPS, Asterisk, rdiff-backup and PRCNIT's software).

VoIP-platform Developer, TipMeet, April 2010 — Present

TipMeet is a startup that provides paid lines. I develop a communication platform. The platform is built of the following components: OpenSIPS, MediaProxy, FreeSWITCH, SIP B2BUA based on Sippy and tippresence.
At TipMeet I have:

- performed a part of work on the design of the communication platform.
- developed a presence server (source code) with SIP/HTTP/AMQP interfaces on Twisted/Python. As a part of the project I've developed a simple SIP-stack (incomplete implementation of RFC3261) (source code) on Twisted. The presence server is used in production now.
- developed routing logic for OpenSIPS and internal RESTful API to connect OpenSIPS to the project database. The RESTful API is implemented as a WSGI application.
- assisted with bugs fixing in the complex multicomponent system.

Education

2006 — 2011 M.S. in Computer Science and Information Technologies
Saratov State University

Related activity/industry participation

- OpenSIPS community member, source code contributor and maintainer in Fedora/RHEL repositories.
- Google Summer of Code 2010 program participant within Asterisk project.
- Member of Fedora project.
- Developer of software package for modeling the atomic structures on the computer clusters using MPI technology.