

Novgorodov Igor

Born 12 November 1985

306, 4k5, Balaklavskiy avenue
Moscow, 117639
Russian Federation

Phone: +7 (963) 658-64-69

E-Mail: igor@novg.net

Skype: igor.novgorodov

GitHub: <https://github.com/blind-oracle>

LinkedIn: <https://www.linkedin.com/in/igor-novgorodov-420aa2a3/>

Family

Married, 1 child

Main skills

Experienced software developer and engineer.

Some of my code is available on [GitHub](#)
Other examples can be provided on request.

My technical publications (Russian): [Habrahabr](#)

Open-source contribution:

- Minor Linux kernel patches (like [this](#)) and bug reports
- My own libraries ([go-aux](#), [go-amqp-wrapper](#))
- Significantly reworked forks of some libraries ([go-radius](#), [go-dhcp](#))
- Pull requests to some of the software that I'm using (like [sniproxy](#), [go-smpp](#), [accel-ppp](#), [gosnmp](#))
- Bug reports and/or patches for many other open-source software (Squid, Suricata etc)

Development tools:

- Golang, Perl, PHP, Lua, C, Python, Java, BASH and others
 - Experience in developing highly loaded systems
 - Experience in low-level network programming: have developed protocol parsing libraries (DHCP, RADIUS, SMPP and some others)
 - Profiling and further optimizing software for performance
- Expert usage of many DBMS and message brokers like:
 - MySQL, Aerospike, Cassandra, Redis, Couchbase
 - RabbitMQ, Mosquitto
- SQL: Queries, Database architecture, triggers, foreign keys, functions/procedures etc
- HTML, JS, CSS

OS:

- Linux (RHEL/CentOS, Debian, Gentoo) - expert
- FreeBSD
- Windows Server

Open-source ecosystem:

- Mail: Postfix, Dovecot
- Configuration management: Ansible, SaltStack, Chef
- DNS: BIND, Unbound, NSD, PowerDNS
- HTTP: Apache, nginx, HAProxy

- Monitoring: Zabbix, Cacti
- SQL: MySQL, PostgreSQL
- NoSQL: Aerospike, Cassandra, Redis, Couchbase
- Networking: OpenVPN, iproute, IPSEC, Quagga/BIRD (OSPF, BGP)
- vSphere: Deep expertise in deployment and configuration
 - vCenter, Update Manager
 - HA, [S]DRS, Fault tolerance, dvSwitch
 - Backup: Veeam B&R, VMWare Data Protection

SAN:

- FC, iSCSI
- Building fault-tolerant SAN storages based on Linux, SCST (FC, iSCSI), DRBD, Pacemaker

WAN/LAN:

- Designing and building fault-tolerant networks
- Cisco routers, switches and ASA firewalls

My past projects:

- ISP Billing Core (netflow collector and parser) (C, MySQL)
- Automation: ticket/helpdesk, user management, one-click file sharing for intranet users (PHP, MySQL)

Employment history

Head of development team (CJSC “MaximaTelecom”, Moscow, Russia)

www.maximatelecom.ru

December 2016 – Today

Me and my team has developed from the ground up and are evolving the following projects:

- RADIUS server: sophisticated request logic, highly performant, multi-level request caches, online configuration reload and many other features.
- DHCP server: dynamic subnets generation based on templates, pool loading from MySQL, persisting leases in Aerospike
- Communication Service (SMPP, Instant Messaging): Highly performant modular messaging system that manages sending/receiving messages through various protocols and performing bulk message sending. One of it's main goals is to power Moscow Subway emergency messaging broadcast.
- Network Monitoring System: client-server software to monitor continuously the wireless/wired link between vehicles and datacentre.
- Many other microservices and modules

We're using the modern software stack: Golang, Aerospike, Cassandra, RabbitMQ, InfluxDB, Grafana, MySQL, ELK and many others.

Senior system engineer (CJSC “MaximaTelecom”, Moscow, Russia)

www.maximatelecom.ru

December 2015 – November 2016

My main goal was to keep the IT infrastructure supporting the largest underground Wi-Fi network in Moscow subway up & running. I was leading a team of two engineers.

Some numbers:

- 800 trains (6k train cars)
- 6 million clients a day
- 300k wireless users simultaneously
- 1500 Cisco WLC controllers and routers

- 6k Cisco APs and switches
- 6k Femtocells
- 20+ Gbit/s of traffic
- RADIUS: 1000+ requests per second
- DHCP: 2k+ leases per second, 5k+ subnets

Other notable projects:

- Wi-Fi access in buses/trams/trolleys – over 8k vehicles (Moscow City Transport)
- Stadiums (Spartak, Flsht)
- Entertainment (Kidzania)
- Airports (SVO, VKO)
- Trains (Moscow regional electric trains)

I was responsible for the following IT infrastructure:

- VMWare vSphere clusters (20+ hosts)
- Linux/FreeBSD/Windows servers (400+, mostly virtual)
- Monitoring (PRTG, 20k sensors)
- Highly loaded services including:
 - RADIUS
 - DHCP
 - DNS (Unbound, 20k+ reqs/sec)
 - HTTP and application servers (nginx, unicorn, elixir, tomcat, ...)
 - Databases (MySQL, Cassandra, Aerospike)
- SAN infrastructure (FC/iSCSI)
- Many other minor systems that support our infrastructure

Senior system engineer (CJSC “KR Properties”, Moscow, Russia)

www.kr-pro.ru

November 2008 – November 2016

I was responsible for the health and development of the company's IT infrastructure.

- IT department tactical and strategical management
- OS: Linux, Windows Server 2003-2008R2, VMWare vSphere
- Network devices: mostly Cisco (ASA firewalls, ISR routers (800-3900), Catalyst switches (2960, 4500-X), MDS fibre channel switches etc)
- VoIP: Asterisk, Avaya
- Supporting geographically dispersed VPN network based on DMVPN, OpenVPN, IPSEC, OSPF and EIGRP dynamic routing
- Migration of old physical servers to vSphere private cloud
- vSphere upgrade lifecycle from 4.0 to 6.0
- Implementation of VDI infrastructure (Horizon View, Zero-clients, nVidia GRID cards, Teradici APEX acceleration)
- Migration from iSCSI to FC SAN infrastructure
- Building custom highly available SAN storages (Linux, DRBD or LSI Syncro, SCST, Pacemaker, iSCSI/FC)
- Migration of VoIP from Avaya to Asterisk
- Building convergent mail system with Linux frontend (HAProxy, ClamAV, Postfix, OpenDMARC, OpenDKIM, SQLGrey etc) and Exchange backend
- Proxy servers with transparent Kerberos AD authentication (Squid, SSL bumping)
- BIND DNS Server (DNSSEC)
- Backup software (Veeam, Bacula, custom scripts)
- Monitoring software (Zabbix with SMS alerts, Cacti, Monit)
- Software development
 - Intranet helpdesk system with AD integration and transparent authentication
 - (PHP/Perl/MySQL/LDAP/Memcached)

- User lifecycle management: creating and removing users from AD, VoIP PBX (PHP/Perl/MySQL/Powershell)
- Mail archiving system for the need of security department (Perl, MySQL, Postfix)
- AD/OpenLDAP synchronization scripts

System engineer (LLC “NewCom Port”, Moscow, Russia)

www.ncport.ru

February 2007 – October 2008

My responsibility:

- Supporting server infrastructure of the small (10 racks) datacenter
- Administration of Linux servers (billing, mail, www, monitoring etc)
- Writing applications on Perl/PHP/MySQL stack (monitoring, configuration backup)
- Implementation of highly-available cluster for the mail service (heartbeat, DRBD, Postfix, Dovecot, MySQL)
- Writing new Netflow billing core on C (multithreaded, using hash tables)
- Creating various web-based apps (mail system management, hosting, ups monitoring)
- Creating a simple universal backup system that suited company's needs (unix, windows, networking device's configuration)

Software developer and engineer (LLC “Bisel”, Moscow, Russia)

November 2004 – January 2007

I was developing an in-house CRM (PHP + MySQL) and was responsible for system administration of a small network (Linux and Windows servers)

Education

2001-2004 National Research Nuclear University 'MEPhI', Moscow (Incomplete)

1996-2001 Mathematical Lyceum