Roman Staroseltsev

C / Perl Developer

Projects 2001–2011

Novosibirsk, Russia

Academic and pre-commercial experience - postgraduate studies, projects at institutes, freelancing

Total technology stack for the period

Backend / OS: C/C++, Perl, TCP/IP sockets, GPIB, Linux, Apache, MySQL, Samba.
Frontend: HTML, CSS, JavaScript.
Tools: gcc, Makefile, iptables, dd, top, route.
Hardware: Alpha Platform, MVS-1000/32, MVS-1000/128, Itanium II.

Certifications (2003):

- «**Linux Specialist**» of Computer Training Center at BMSTU

Job Experience

- **12.2006 – 06.2011 – Budker Institute of Nuclear Physics (BINP), SB RAS**
  Laboratory website: https://www.inp.nsk.su/gdl

  Position: Senior Engineer (02.2010 - 06.2011)
  Project: Development and implementation of a power supply control system for a plasma trap.
  Responsibilities: Requirements analysis, specification development, technical documentation preparation, design of block diagrams and system algorithms, software development and debugging, integration of the system into the main control system of the plasma trap.
  Results: The system was developed and deployed for performing plasma experiments. The developed software was tested on an operational plasma trap power unit.
  Tech stack: Ubuntu 9.10, Scientific Linux 5.0, C/C++, TCP/IP sockets

  Position: Junior Research Fellow (11.2008 - 01.2010)
  Project: Automation of physical processes in plasma experiments. Optimization of the control and data acquisition system of the GDT (Gas Dynamic Trap) plasma trap (PhD research topic).
  Responsibilities: Development of a control and data acquisition system module for multichannel Tektronix digital oscilloscopes used for diagnostics of Alfvén plasma instabilities. The module was implemented as a client–server solution based on TCP/IP socket communication.
  Results: The data acquisition module was successfully developed and integrated into the existing control system of the GDT plasma trap. Automation of plasma instability diagnostics was achieved.
  Tech stack: Red Hat 7.3, Scientific Linux 5.0, gcc 2.96, gcc 4.1.1, C/C++, TCP/IP sockets, GPIB

  Position: Senior Laboratory Assistant (12.2006 - 10.2008)
  Project: Development of testing software.
  Responsibilities: Development of a suite of system utilities for testing memory and register logic of multichannel CAMAC-based multichannel ADCs, as well as other diagnostic devices built on the same CAMAC standard. Testing and validation of diagnostic hardware devices.
  Results: A comprehensive testing utility suite was developed to support ten different device types.
  Tech stack: Red Hat 7.3, Scientific Linux 5.0, Midnight Commander, C, gcc 2.96, gcc 4.1.1

- **02.2004 – 05.2004 – SibMedia**
  Position: Perl Developer (freelance)
  Project: Development of a billing system for Internet access control, user payment processing within a local network, and accounting of Internet traffic usage.
  Responsibilities: Full development lifecycle — from concept to deployment.
  Results: The system was fully developed, deployed, and tested on the customer's side within three months and remained in production use for approximately 8 years. The network served more than 100 client computers. The project was developed in parallel with studies at SSGA, employment at SSGA, and work at the Institute of Computational Mathematics and Mathematical Geophysics (ICMMG).
  Tech stack: ASPLinux 9.0, iptables, MySQL 3.23.56, Apache 1.3.26, Perl 5.8.6., HTML/CSS

- **09.2003 – 05.2004 – Siberian State Academy of Geodesy (SSAG)**
  Organization website: https://sgugit.ru
  Position: Network administrator (freelance)
  Project: Deployment of a local Ethernet network at an SSGA branch and its connection to the Internet.
  Responsibilities: Installation and configuration of system, network, and application software on two servers and 50 client computers across two computer labs and the dean's office. Configuration of DNS, Samba, and Apache services, network routing, packet filtering systems, and related infrastructure components.
  Results: The network was successfully deployed and continues to operate to this day. Project work was carried out in parallel with studies at SSGA and employment at the Institute of Computational Mathematics and Mathematical Geophysics (ICMMG).
  Tech stack: ASPLinux 9.0, Windows 2000, iptables, Samba, Apache

- **07.2003 – 12.2006 – Institute of Computational Mathematics and Mathematical Geophysics SB RAS (ICM&MG)**
  Department: Siberian Supercomputer Center — https://sscc.ru
  Position: Perl Developer
  Project: Development of a statistics system — an automated system for accounting and monitoring CPU time usage on supercomputer clusters (diploma thesis).
  Responsibilities: Design and development of a distributed client–server architecture targeting three supercomputer clusters comprising nearly 200 processors. The system enables collection, storage, processing, and reporting of up-to-date CPU time usage statistics.
  Results: The project was completed and brought to the deployment stage. Participated in scientific seminars and conferences.
  Tech stack:
  - **Software:** ASPLinux 9.0, Apache 1.3.26, MySQL 3.23.56, Perl 5.8.6, HTML/CSS/JavaScript.
  - **Hardware:** Platform – "Alpha", Clusters – "MVS-1000/32", "MVS-1000/128", Itanium II.

- **04.2001 – 07.2003 – Boreskov Institute of Catalysis SB RAS**
  Organization website: https://www.catalysis.ru
  Position: Web Developer, System administrator (Linux / Windows)
  Project: Website of the Laboratory of Environmental Catalysis. Laboratory computer infrastructure.
  Responsibilities: Design and development of the website structure and layout. Frontend markup, content creation, updates, and ongoing support. Maintenance and support of the laboratory's computer fleet (20 workstations):
  - **Software:** antivirus maintenance, hard drive preventive maintenance, driver installation, configuration and support of system and application software, setup of network client applications, Windows reinstallation when required, troubleshooting network connectivity issues, user support and consultations.
  - **Hardware:** modernization of laboratory computers, selection of components for new purchases, preparation of related documentation, PC assembly, installation and configuration of new hardware, and minor repair works.

  Results: The laboratory website was developed by me in 2002 and remained in stable operation until 2015. Implemented a fast Windows OS recovery system across all laboratory computers based on disk images using **dd.**
  Tech stack: HTML, CSS, ASPLinux 9, dd, Windows 98 / XP / MS Office