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Skills Summary

20+ years professional software development, from low-level firmware to high-level tools; 15+ years UNIX system administration experience. Strong automation and human factors skills..

Employment History

Red Hat, Inc. (Raleigh, NC; telecommute from Los Alamos, NM)   *February 2010–Present*
Software Engineer

Took over development of rpmdiff, an internal build-sanity tool. Extended its tests, created new ones, improved reporting and usability. Wrote full developer documentation. Wrote framework for component unit tests.

Designed and wrote rpmgrill, an Open-Source build analysis tool that runs much earlier in the development cycle. Currently working on adoption in-house and on Fedora.

Worked in multinational team designing and creating standards for internal application messaging. Wrote and documented reference tools for others to use as scaffolding for their own needs. Singlehandedly (and, sigh, accidentally) brought down corporate messaging infrastructure.

Redback Networks, an Ericsson company (San Jose, CA; telecommute from Los Alamos, NM)*March 2008–January 2010*
Software Engineer

Created software tools to help in development and build processes. Figured out, then documented and maintained, complex CVS mirroring system. Worked with teams throughout the company to integrate development environments.

Set up automated runs of Coverity Prevent, a software static analysis tool. Devised a framework for running on new branches as needed, and tools for extracting and analyzing results. Wrote tools to help developers check their code, and to report potential bugs in commits.

Improved build infrastructure. Eliminated dependency on individual build hosts, clearing up a source of much confusion. Created SQL database to track CVS commits. Wrote tools to integrate CVS with (separate) bug database. Worked closely with IT team on system issues, fostering a rapid-response environment in which problems were prevented or, at worst, quickly fixed.

Alcatel-Lucent (Alameda, CA; telecommute from Los Alamos, NM)   *January 2001–March 2008*
Toolsmith

Created and maintained hundreds of tools used in engineering development environment, from user-visible to transparent infrastructure. Continuously monitored tool performance and mailing list chatter to refine existing tools and to discover what new ones were in need of inventing. Assisted in site system administration of Solaris and Linux hosts. Created new framework for simplifying DNS maintenance. Created new scheme for managing user accounts.

Created CGI interfaces to the Sybase defect and project tracking systems. Developed new web interfaces to existing data. Designed graphs illustrating software branch relationships and activity. Designed plots for monitoring defects/features. Created an entire tool suite for managing software review. Integrated with defect database, CVS repository, mailing lists. Set up tests to analyze diffs and catch common problems automatically.

Automated software build environment. Automated software release process, encoding complex decision trees into a simple web interface requiring just a few human decisions. Automated the CVS branch creation process. Wrote tools for compile farm. Wrote dozens of small tools and reusable modules to perform periodic database maintenance and cross-checks. Eliminated most tasks that required human SQLing, by creating scripts for all common (and some uncommon) procedures. Investigated bugs in gcc cross-compilers. Investigated migration path to newer gcc. Created new SNMPv2 toolkit for handling MIB module maintenance.

Los Alamos National Laboratory, Space and Atmospheric Sciences (Los Alamos,NM)   *May 1998–January 2001*
Staff Member

Wrote C and IDL software for analyzing data from ACE, Ulysses, Lunar Prospector, Deep Space One, IMAGE, and Genesis space exploration missions. Updated and/or rewrote scientific software in order to make portable and add

features. Automated all processing of incoming telemetry and data. Designed graphical plots of instrument data, and wrote software to generate these automatically. Created automated WWW interfaces to supply mission data to worldwide scientific community. Created core set of reusable data analysis modules.

Created and published portable libraries for IMAGE mission data analysis, for performing coordinate transformations between physical frames of reference, and for interfacing IDL to SPICE (a JPL toolkit for providing spacecraft ephemeris). JPL now includes my system with their SPICE toolkit.

Hewlett-Packard (acquired Convex Computer Corp., December 1995) (Richardson, TX, on-site at Los Alamos National Laboratory)   *July 1994–May 1998*

System Administrator

Responsible for the maintenance and administration of a Convex C3240 system controlling a Metrum RSS600 tape jukebox. Developed tools to assist in its regular maintenance and auditing. Was also responsible for the operation of over one hundred mixed Linux, SunOS, Solaris, and IRIX workstations spread out over three physical networks.

Auspex Systems, Inc. (Santa Clara, CA)   *March 1992–June 1994*

Software Engineer

Working in a team of four, ported the Auspex NetServer software to an AIX platform. Wrote tools to assist in source control and management. Wrote OpenBoot-based driver code used in bringup of new multifunction I/O processor board. Developed and maintained internal bug-tracking tools. Set up and implemented Auspex's first WWW presence (remember those days?)

Digital Equipment Corp. (Palo Alto, CA and Maynard, MA)   *May 1987–March 1992*

Software Engineer

Designed, specified and prototyped new powerup/firmware environment. Designed and implemented set of tools for managing hardware design releases. Ported parts of OSF/1 kernel to new platform. Wrote tools for coworkers throughout the site. Wrote tools to manage my workstation, and acted as local Ultrix contact.

Computer Languages and Environments

Fluent in several flavours of UNIX (Linux, *BSD, Solaris, HP-UX, Ultrix, OSF/1), VAX/VMS and TOPS-20 operating systems. Fluent in HTTP/HTML/DHTML/AJAX/CGI development..

Languages: Compiled: Fluent in C. Once fluent in C++, MIPS assembly, VAX Macro, MACRO-20, Forth, Lisp, 6502 assembly. If pressed, may admit to having coded in Pascal, FORTRAN, APL and 3081 assembly..

Languages: Interpreted: Fluent in Perl, sh/bash, PostScript. Some Python. Once fluent in IDL, lex/yacc, awk..

Languages: Other: Competent in SQL (Sybase and MySQL). Once competent in SMIv2 and MIB management.

Code Management: Fluent in git, Mercurial, CVS, RCS. Conversant in Subversion..

Human Languages

Fluent in English and Spanish. Rusty in ASL (American Sign Language) and German. Ekselent riten & verbul comunikashun skill's, hampered by a stunningly inappropriate sense of comic timing.

Miscellany

Director on the Board of the Los Alamos Coop Market, 2010-present. Wrote order management system for an earlier local food Co-op, transforming a tedious and error-prone paper process into a fairly quick online one. Invented other process improvements for ordering and truck unloading. Member workload decreased significantly, and my system ran itself for four years.

Team member, Pajarito Canine SAR, 2007-present. Wilderness First Responder, current as of March 2013. Regular volunteer at local ultramarathon events. Volunteer, Los Alamos Friends of the Shelter.

Three Perl modules on CPAN: Device::LaCrosse::WS23xx, CGI::Alert (both original), and Net::NIS (took over maintenance; added new features).

Interests

Cooking, Yoga, Rock Climbing, Reading, Crosswords, Hiking, Languages.

Education

BS in Computer Science (minor in German), May 1987; Rensselaer Polytechnic Institute, Troy, NY

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