

Paul B. Schroeder (Last update: 11-18-2009)

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Home Page / Résumé / Email

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Objective:

I am interested in finding a position involving the development of **Unix/Linux/Open Source, embedded, wireless**, networking, network security, or database information systems (RDBMS). A position which allows for telecommuting and/or is located in downtown Austin would be ideal.

Technical Skills:

I have a strong background in **network computing, Unix/Linux** system administration, and systems and kernel programming.

I am very familiar with rapid system development using scripting languages, especially **Perl** and **Python**. **Java** and **C++** add to my object-oriented skills.

I am well versed in **CGI** and **SQL** and have successfully developed **complex database information systems** which access **RDBMSs** via **Perl, Python, PHP**, Cold Fusion, and **Java** using **JDBC/J2EE**.

Also, I have taken graduate classes in **Network Security, Software Design Patterns** with **Java** and **UML**, and Domain Specific Software Architecture (DSSA). My Master's report was on **embedded Linux** and **User Mode Linux**.

Operating Systems: Linux, Solaris, AIX, MS-DOS, MS-Windows, Cisco IOS

Languages: C, C++, Java, Python, Perl, Tcl/Tk, awk, Basic, SQL, PHP, Cold Fusion, Javascript, SGML, XML, HTML, LaTeX, UML, make, autoconf/automake

Software/Tools: Apache, Websphere, J2EE, Oracle, DB2, PostgreSQL, MySQL, MS-SQL, CMVC, CVS, subversion, perforce, jira, sendmail/postfix (SMTP), spamassassin, clamav, DNS, NIS, NFS, IMAP (dovecot, cyrus), POP3, DHCP, LDAP, tftpd, PGP/GPG, glimpse, VMware GSX/ESX servers, user-mode-linux, Xen, KVM, make, autoconf/automake, expect, ncurses, gdb, kdb, glib, gnet, QT, mtrace, gprof, kismet, wireshark, tcpdump, ejabberd (XMPP), sleekxmpp, json, koji, mock, punji, revisor, anaconda

Work Experience:

Senior Software Engineer, Blue Coat Systems, Inc., Austin, TX (April '08 - April '10)

- **Design, development, and hardening** of the Blue Coat Open Platform for Applications (BCOPA) according to product requirements. The BCOPA Linux distribution is based upon **CentOS 5** and is designed for **virtual and hardware appliances** running Blue Coat's management applications.
- **Integration** of existing Blue Coat products/applications into BCOPA.
- Design and development of the **common application layer** used by the products/applications. The app layer was **XMPP/XML/json** based and was written in **python**. Developed deep understanding of XMPP, ejabberd, and sleekxmpp.
- Wrote python **unittest** code for testing system components.
- Design and development of the **koji/mock** based build system. Developed patch to allow koji to support perforce SCM. Patched koji and wrote python **expect** script to auto-sign RPM packages.
- Extensive **makefile, bash** scripting, mock configuration used for **RPM** build system integration and distro ISO generation with customized **anaconda** and **revisor**.
- Automated scripts for development/test installation of BCOPA into Kernel-based Virtual Machines (**KVM**) via **libvirt**.

Paul B. Schroeder's Résumé

Senior Software Engineer (Contract), Freescale Semiconductor, Inc., Austin, TX (Jan '08 - April '08)

- Worked with a **team to develop and support** a software release and global distribution process.
- Development of a process to **automate** the download, build, debug, installation and support of open source software packages.
- Development of an **automated** system for workstation installs and upgrades with **Red Hat Enterprise Linux**.
- **Perl, Tcl/Tk, shell**, and **kickstart** scripting and **RPM packaging**.
- Wrote **python** scripts to automate the insertion of software usage metrics into **Oracle** and **MySQL** database systems.

Senior Linux Developer, Uplogix, Inc., Austin, TX (Jun '06 - Dec '07)

- Lead architect and developer of **Fedora** based, "**embedded**" Linux distro for the Envoy network management and monitoring appliance.
- Customized build environment, **make files**, RPM spec files, and scripts for building the OS.
- Customized **anaconda** system installer for the Envoy hardware platform.
- **Kickstart** and shell scripting to customize and automate system installations.
- Customized Fedora **RPMs** for distro. Created RPMs for JRE, Envoy app, etc.
- Shell scripting, with **bash**, of the various custom Envoy commands.
- Linux **kernel** and **device driver** changes as necessary. Worked with Moschip to submit and become maintainer of the 7840 USB-serial Linux kernel driver.
- **Java** application coding. Much of which was for OS integration.

Senior Software Engineer, High End Systems, Inc., Austin, TX (Nov '05 - Apr '06)

- C++ development of large lighting control application using the QT library.
- Worked on revamping the print system for the application using QT APIs.
- Ported threadx/windows client/server C++ application to embedded Linux.
- Build system development with autoconf, automake, libtool.

Senior Software Engineer, Sensoria Corporation, San Diego, CA (Feb '05 - Nov '05)

- C++ work on the Defense Against Cyberattack on Mobile Ad Hoc Networks (MANETs) project. (<http://www.darpa.mil/ato/solicit/MANETdefense/>)
- **Embedded Linux** development for mesh **wireless ad hoc networks**.
- Extensive **client/server development** in C using glib and gnet on arm-linux and sh4-linux.
- Extensive use of GNU tools for debugging, tracing, profiling, cross-compiling.
- Use of kismet, wireshark, tcpdump for wireless network sniffing and analysis.
- Shell scripting and extensive use of Perl for test automation.

Staff Software Engineer, IBM Corporation, Austin, TX (July '98 - Feb '05)

*** Worked in IBM's **Linux Technology Center (LTC)**.

- Developed a RS485 serial protocol test suite for a RS485 device driver a team member developed. It was nurses driven, written in **C**.
- Worked developing special purpose Linux distros.
- Worked developing Active Directory for Linux. Wrote java installer for AD.
- Worked extensively in **patent/IPL review** processes.
- Worked as **team lead** of the network I/O and device driver team.
- Evaluated and researched wireless technologies; wrote a **wireless Linux** strategy whitepaper.
- Worked with Linux-ATM as a developer and further evaluated/tested and recommended third-party ATM solutions for the LTCs carrier Linux project.
- Wrote ATM on Linux strategy whitepaper. Configured/administrated Cisco IOS ethernet/ATM routers/switches for ATM testing.
- Developed/maintained Mwave modem Linux driver and application software.

Paul B. Schroeder's Résumé

*** Worked on Rapid Development/Deployment Team for IBM's Enterprise Web Management (EWM) e-business portal. Developed/deployed client requested **complex systems** features using Net.Commerce, Net.data, Domino Go, Websphere, J2EE, and DB2.

*** Worked on Linux based **server appliances** in the e-business Service Provider (eSP) unit.

- Developed method and software (called arpfind) to dynamically assign an IP address to headless appliances. Arpfind heavily used the ARP protocol and **packet capture** techniques (**libpcap**).
- Maintained and configured the **Linux kernel** used by the appliances.
- Drove the architecture for backend Perl scripts which configured the appliance network settings. Helped maintain the **J2EE Java servlets (JSP)** which used the scripts.
- Produced **Makefiles** and **RPM SPEC** files for the build architecture.

*** Worked on a **team** of three as the resident Linux techie to prototype and evaluate "**Managed Linux Clients**". Developed and demoed **remotely booted** and **remotely managed** Linux clients which consisted of diskful and diskless PCs and NCs. Recommended, researched, and evaluated **Linux** technologies relating to the project. Worked on **sizings** for developing a Linux client and possible client management tools.

*** Worked as the component owner of the **JavaOS System Database (JSD)** for **JavaOS**. Designed, developed, and implemented the **Directory Server Driver (DSD) API** and DSDs for JavaOS. Successfully developed DSDs for the JSD and PostgreSQL with **JDBC/J2EE**. The DSD API was developed to allow JavaOS to use any backend database or LDAP server as the JSD datastore.

- Advocated and helped JOS test team to test Linux as a JOS boot server.
- Developed **web based, glimpse** JOS source code index and search utility.

Web Applications Developer/Systems Administrator, Neology Information Design, Chicago, IL (May '95 - May '98)

- Developed **Java/JDBC/J2EE** based billing system which tracked data in a **RDBMS**. Rewrote in Cold Fusion to integrate it with legacy systems.
- Designed and developed "Universal Email" (UE) system/mailer/MTA. UE incorporated **web administration tools** for database administration.
- Interacted with clients to develop **PHP** and **Perl web apps** and **Java applets**.
- Installed/managed sendmail and other apps, wrote **PERL** helper scripts, etc.

Systems Administrator/Webmaster, St. Joseph's College (Sep '94 - May '98)

- **Consulted/contracted** with the school to revamp the Unix based network. Transitioned **SunOS** based servers to **Sparc Linux** servers. Set up and administered most network servers. i.e. **DNS, NFS, sendmail, IMAP**, etc.
- Designed and built the school's **web page** (<http://www.saintjoe.edu/>) with a **team** of student administrators. Extensive use of **PHP** and **PostgreSQL** for a completely **dynamic web site** using **Apache**.
- System administration of the **Unix (SunOS, Solaris, Linux)** network.
- Developed, admined, supported web based teacher evaluation software.
- Tutored students in **C, C++,** and Turbo Pascal programming.
- Answered student queries pertaining to software and/or the school network.

Education:

University of Texas at Austin
Graduation Date: Dec 2002
GPA: 3.2 / 4.0

Degree: Master of Science in Engineering
Discipline: **Computer Engineering**
Specialization: **Software Engineering**

Saint Joseph's College
Major GPA: **3.9 / 4.0**
Cumulative GPA: 3.4 / 4.0

Degree: Bachelor of Science (May 1998)
Major: **Computer Science**
Minor: Mathematics