

# BRIAN E. LAVENDER

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## Objective

Programming and/or Systems Administration preferably in a GNU/Linux environment

## Experience

Systems Engineer / Free Software Programmer  
**California Digital Corporation**, Fremont, CA

December 2003 – June 2004

- Worked on team that built world's second fastest supercomputer cluster for Lawrence Livermore National laboratory (LLNL). The system runs near 20 Teraflops, second only behind NEC's Earth simulator in Japan. It is composed of 1024 systems each containing 4-1.4 GHz IA-64 CPU's and 8 Gigabytes of RAM totaling 8 Terabytes of memory. The systems are interconnected via Quadrics Elan4 adapters and Gigabit Ethernet.
- Debugged, implemented and automated various GNU cluster tools: Free-IPMI, Powerman, biosconfig, pdsh.
- Implemented LLNL's YACI cluster installer and debugged where necessary. Contributed atomic image generation method.
- Debugged kernel issues and methods for figuring out which memory modules were bad, along with testing and debugging developers' code.
- Wrote about thirty shell and PERL scripts to automate build, burn-in, benchmark, and quality check processes.
- Collectively built and ran Linpack benchmark on 64 system groups while building cluster.
- Developed "Tracklog" problem tracking system for diagnosing problematic systems.
- Developed GNU/Linux program for flashing Tiger 4 BIOS in Linux.
- Implemented process for scalable unit verification and coordinated with project manager and customer regarding quality check procedures.
- Coordinated with vendors regarding issues on systems.
- Placed in charge of Quality Control since project completion.
- Built GNU/Linux imaging system along with various projects using NFSRootBoot.

**Skills Used:** Free-IPMI, biosconfig, Tracklog, PERL, BASH, C, make, Linpack, Cerberus burn-in, Debian GNU/Linux, Redhat, DHCP, tftpboot, Cisco Catalyst 3500, Cyclades CAS, Quadrics. LLNL GPL tools.

Application Engineer / Programmer  
**WorldCom**, Sacramento, CA

November 2000 – February 2003

- System and Application programming using primarily PERL along with bash, ksh, PL/SQL, C, and Java on Solaris Unix and Linux.
- Co-developed Universal Dial Up pool that supported multiple customers through one universal block of modems. The Dial up pool utilized LDAP to store users and make them available to the individual customers. The SLAPD portion of LDAP replicated users to secondary facility for load balancing and redundancy. Periodic jobs replicated the information in RADIUS, which separated customers using the Dialed Number information. Log data was parsed and converted into Oracle schema for querying.
- Coordinated and released control of the Universal Dial Up pool from the engineering group to Operations group. Gathered existing documentation and created documentation where it was lacking.
- Developed monitoring probes for the Universal Dial Up pool and customized them to report to HP Openview. Implemented already HP Openview monitoring methods where available.
- Compiled and configured server applications. Apache, Tomcat, Wu-FTP. Provided Apache expertise.
- Maintained and diagnosed Opensales e-commerce application.
- Diagnosed and debugged Oracle PL/SQL packages.
- Implemented conversion process of scheduled jobs that performed maintenance and produced reports for customers. Moved the code under CVS control, replaced email reporting with HP Openview reporting.

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- Created a conversion procedure and coordinated with other programmers using Remedy to track progress.
- Created web based asset management application using PERL and Oracle to track assets. This application allowed users to identify hardware, locate it, track what electrical outlet to what it was hooked. It correlated the jumpered connections through the server room as well. Identified and specified what information needed to be tracked for Point-to-Point, ATM, Frame Relay, and Dial circuits.

**Skills Used:** PERL, LDAP, RADIUS, HP Openview, Apache, Tomcat, Java, Oracle, PL/SQL, CVS, Remedy, C, Solaris, Linux, rsync, tar, ssh, MS Office, Visio

Programmer / Systems Analyst

March 1998 – November 2000

**Army Corps of Engineers**, Sacramento, CA  
Contractor through ITS Corporation and Maxim Group

- Developed a custom financial management database using Oracle for tracking the Total Environmental Restoration Contract (TERC) group's cost plus fee contract plus interfaces to the Army Corps of Engineers' (ACOE) accounting server called CEFMS on Windows, Linux and Solaris Unix.
- Developed reconciliation tool for correlating payments from CEFMS to projects not stored in CEFMS using spreadsheet and a PERL program.
- Developed Paradox graphical user interface (GUI) for users to input data into the custom created database along with the capability to generate reports that would come from either the CEFMS accounting database, the custom TERC management database or both.
- Prototype PERL/Tk GUI application for interfacing into the databases.
- Developed advanced session maintaining CGI interface to the TERC and CEFMS database. CGI application allows user to dynamically traverse data along with maintaining stringent security standards. Used PERL to code application along with Emacs and CVS for development and revision control.
- Provide occasional assistance to other divisions with computer needs.

**Skills Used:** Paradox, ObjectPAL, Oracle, PL/SQL, Apache, WinNT, TeraTerm, CVS, PERL, PERL/Tk, Solaris, Word Perfect, Quattro Pro, MS Office

Owner

**Brie Web Publishing**, Sacramento, CA

February 1996 - Present

- Maintain a network of six to ten Linux servers for Brie.com running apache, PHP, email, LDAP, ftp, dns, spam filtering, MySQL, PostgreSQL .
- Built server installations that run email, web, ftp, dns, spam filtering, virus protection for Marquis Systems. Machines use RAID-1 and an rsync mirror solution. Machines have run on a continual 365/24/7 service.
- Built SCO server and terminals to run Orthodontists OrthoTRAC application with a backup solution that can restore the entire system in 15 minutes using Microlite BackupEdge software and a DVD-RAM drive. Built new server so that it would function with new terminals and newer version of SCO Openserver.
- Build custom Linux applications and provide system maintenance.
- Created Brie Business Directory photo guide <http://www.brie.com/bbd/> web site and dynamic mapping engine.
- Research and develop Unix / Linux technology including LDAP, MySQL, PostgreSQL, Radius, Win4Lin, Wine, ACPI, custom kernels, networking, portability solutions, and the Linux desktop

**Skills Used:** Linux, C, PERL, Apache, LDAP, rsync, Redhat, Slackware, Mandrake, Debian, Suse, MySQL, PostgreSQL, Minivend, mgetty, LPRng, Samba, DNS, FTP, Sendmail, dhcp, HtDig, PHP, IPTables, PPTP, Gimp, xsane, Gnome, Win4Lin, CrossOver Office, Java, Tomcat, Serial Devices, SpamAssassin, Paradox, Oracle, etc.

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Founder and President

**Sacramento Linux Users Group** (<http://www.saclug.org>), Sacramento, CA

October 1998 - Present

- Host monthly meetings with a guest speaker.
- Technical presentations: Installing Oracle on Linux, GRASS GIS system, IP Masquerading for Linux, Netscape roaming profile using LDAP, E-Mail Database with PERL and PostgreSQL, The Zoo PERL CGI compared using PERL and compared to C.
- Operate mailing list with 200 plus users and over 4000 technical questions each year along with an archive of all mailing list posts.
- Create and Support Open Source projects such as Linux Basic Stamp application (<http://bstamp.sf.net>) and Team member of rideplot project (<http://rideplot.sf.net>)

Mechanical Engineer

**AeroAntenna Technology, Inc.**, Chatsworth, CA

April 1995 - August 1995

- Designed test fixture to evaluate whether the GPS antennas leaked using a system that submerged the antennas in water and applied a vacuum. Platter raised antennas out of water before releasing vacuum.
- Oversaw fabrication of fixture to completion.

Mechanical Engineer / Pinball Designer

**Data East Pinball, Inc.**, Chicago, IL October 93 – March 94

- Worked with other pinball designer taking concept game prototype to working drawings.
- Provided production support
- Created ski ramp game concept

## Activities

Salsa, cycling, walking, photography, swimming, hiking, photography, and urban advocacy.

## Education

**Bachelor of Science** Mechanical Engineering  
Cal Poly, San Luis Obispo, CA

March 1993

GPA: 3.25