

Gilbert Heaton
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Status: Immediate
U.S. Citizen

Senior Linux Software
Engineer, including
perl, web, php, scripting,
and data exchanges.

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Proprietary to Gilbert Heaton

<http://resume.heaton.net/>

Top 2016 20% poster at
<http://stackoverflow.com/users/693294/gilbert>

SUMMARY: experienced in working with diverse people across corporate structures and customers, including international customers. Contribute to the design and evolution of products. Persisted through “not fun” projects. While I prefer to work in team environments, am experienced with self-motivated very small projects. Practical knowledge in out-of-sight background processing out up to high visibility customer facing software. Enjoy getting to know coworkers as people. Experienced in legacy environments.

SKILLS INCLUDE:

Power Strengths: UNIX and GNU/Linux, perl, awk, C, UNIX shells: Korn (ksh), Bourne (sh), C (csh and tcsh), Bourne Again (bash), and the Z shell (zsh); OO-perl, POD; CPAN, UNIX utilities; HTML; Designing and documenting software applications; requirement gathering; mentoring; UNIX internals, and working with people.

Experience Arenas: infrastructure programming, optimizing performance, understanding existing code and algorithms, telecommunications, communications, help desk products, software tools, networking, interfaces, network security, presales support, customer support (usually tier-3 or tier-4), customer training.

Recent Languages: perl, php, awk, sed, C, shells, SQL (MySQL, SQL Server, ...), XML.

Project Leadership: lead multiple projects, even when a contractor.

Network & Web: Intense high volume data flows, HTML, CSS, cgi-bin, Apache web server, mod_perl, Java Script, IIS Server, php, TCP/IPv4, MessageQ, MQ Series.

Hardware Used: 64-core IBM-compatible PCs and Sun/Oracle Solaris servers, and strong HP-UX servers.

Hardware Abilities: hands on experience working inside PCs and plugging in networks. Touch screens.

Operating Systems: Developer on UNIX (includes FreeBSD, Linux [Lubuntu, Red Hat, Fedora, Ubuntu, ...], Solaris, HP-UX, AIX) and some Microsoft Windows servers and desktop development.

Applications and Tools: **Dev:** PhpStorm IDE; phpUnit; PhpStorm/xdebug; cc/dbg; gcc/g++/gdb by GNU; make; **Docs:** Adobe Acrobat & Distiller; Open Office; LibreOffice; roff and gruff; Wikis, Microsoft Office Suite; **Internet:** Google Chrome and gmail; Mozilla FireFox and Fire Bug; Thunderbird; **Networking:** Apache; IBM MQ Series; Samba; sendmail; **SCM:** git; AccuRev; Subversion; CVS; Sablime; RCS, SCCS, Subversion; **Virtual:** vagrant; Virtual Box; VMware.

Documentation: thousands of pages involving multiple publications for program requirements, program design, test plans, system administrator, end user documentation; man pages, programmers, cheat sheets, factory assembly manual, field repair documentation, hardware diagnostics, and white papers.

WORK EXPERIENCE

Job: SmartLink / Vonage 2016-Mar to 2016-July (221.8 million)

Distributed team migrating several recent acquisitions into a common system

Position: contracting *php developer* also working in perl and shell scripts on Internal product for managing all facets of **Vonage Premier** accounts, from prospects to disconnects.

- Wrote notes that became “amazing documentation” from on boarding to technical details of product.
- Improved password security of one customer portal. Required architecture meetings, understanding stories, constructing new dev environment, driving QA becoming functional, complex coordination across four deliveries to keep risk low.
- Improved automated FTPing of files from one host to a customer portal. Again, architecture changes were required.
- Helped train a series of new hires that on boarded after myself.
- PHP, Linux, PhpStorm, vagrant, VirtualBox, perl, shell scripts, Libre Office, docs.google.com, slack.com.

K-Force / for federal contractor 2016-Mar 2016-July Two-month contract working from home with hard end date Development surge to complete product for delivery to federal government clients.

Position: perl, bash, and python developer that also wrote main user documentation for my part of the project.

- Helped develop features in python networking python product in unclassified lab under strong NDA limiting what I can put here.
- Required reading included NIST.SP.800-53r4.
- Microsoft Windows Server, CentOS, RDB, perl, bash, python, slack.com, asana.com, splunktronic.atlassian.net, harvest, docs.google.com, Microsoft Word

Job: IDT 2015-Nov to 2016-Jan. (\$1.6 billion)

Small team developing new point of sale product targeting existing customer base.

Position: package building and system provisioning software. Includes building git repository. Heavy use of Ubuntu Linux and Debian packaging. Also shell scripting and PostgreSQL queries.

- Makefiles to compile code and build packages. Maintain repository on Amazon Web (AWS) Services host.
- Debian package building and supporting installer and provisioning code.
- Configure hardware and Linux software, including touch screens under X.

Job: Insys Group / AT&T 2013-June to 2015-Sept. at AT&T (billions and billions)

Monitoring cell tower performance and usage for Network Engineering. Very high-volume data flows.

Position: member of production support team since May, providing 24x7 support for about 40 "Big Data" apps across hundreds of servers. Heavy use of Linux and Oracle/Sun Solaris servers. Also heavy use of C, shell scripting and perl with Daytona and SQL queries. Also XML and continuous releases.

- Analyze and communicate performance and operational issues as well as supporting users.
- Develop scripts to automate manual processes, adding users, monitoring servers and networks, etc. Write programs to manually respond to some queries when waiting for automated code to be completed.
- Corrected much obsolete documentation as well as write much new documentation, mostly on Media Wikis, including templates and transcluded text.
- Major applications where I inherited one of the more difficult applications. Software developer before that.
- Help in adding and removal of users under applications after manual reviews and approvals. Wrote scripts to start automating some of this process.

Position: Consulting Software Engineer on servers receiving, and analyzing, cell-network traffic (Red Hat Enterprise Linux ksh scripts, C, multithreading, Intel Itanium servers, Solaris Servers, shared memory, perl, gawk, high-volume servers, terabytes of file transfers, HP-UX, Daytona Database, DSQL, structures).

- Improve performance of large volume Daytona Database using Cymbal language with C support.
- Improve performance of major report by reducing time from 90 minutes to under 60, with potential to cut down to 20 minutes using distributed processing with multithreading if work deemed worthwhile.
- Create installer script to install in-house application for development and testing in a much more reliable manner along with much greater speed. Much documentation written.
- Code to determine which cell phones are not reliable enough to use for generating statistical analysis on responses to cell towers for phone and tower performance. Never understood it all, but some phones can waste radio time in giving unusable responses. Distributed applications. Probes on RNC for NodeB streams.
 - Data exchange: import dirty data files providing phone models, names, IMEIs, etc., cleaning it up for use.
- Involved in receiving feeds from external servers and sending feeds to other external servers on working call network performance. Distributed and clustered processing with multithreaded code.
- C, perl, and shell script programs to collate and merge incoming information. Also some C++. Sockets.
- sshfs mounts between development hosts for more efficient bulk file transfers.
- Bug fixes and feature enhancements.

Job: Datanomics / Verizon Wireless 2011-March to 2013-May. \$3+billion

Large provider of wireless services and cell phones, wireless machine-to-machine operations, etc.

Position: Consulting Software Engineer on Back End systems within Verizon Wireless Point Of Sale. (HP Superdome server, high-volume traffic, perl, HP-UX, VMS, back-end processing, Oracle SQL, byte swapping, VMS, RDB, shell scripts, data structures).

- Wrote utility to work with AccuRev to populate \$Header\$ records in source files using appropriate version information from AccuRev.
- Helped migrate VMS C applications to HP-UX UNIX C on back-end servers using parallel processing.
 - Wrote cgi-bin under HTTPi web server to return status test orders and virtual test warehouse as seen by back-end system. This is improving efficiency of testers and developers in diagnosing troubles.
 - Wrote perl utility to automate simpler migration efforts involving syntax, #include files, etc.
 - Wrote C library to better simulate some VMS actions on UNIX, such as logical variables and selected DCL commands, to minimize migration efforts. Required understanding VMS algorithms.
 - Migrated DCL commands in system() and pipe() calls to shell script commands.
 - Wrote byte-swap code to allow for endianness differences between VMS/Sun hosts and HP-UX.
 - Migrated COBOL code on VMS to C on Superdome server.
 - SQL: Migrated RDB and Pro*C code on VMS into Oracle Pro*C.
- Worked with C application distributed over MessageQ and MQ Series middleware messaging.
- New application interfaces on back end server to provide new services to front-end servers.
- Maintained "Virtual Warehouse" that stocked virtual phones for testing ordering and shipping.
- Proposed solutions to a problem with too many instance of the "watcher" program running that was responsible for bringing multiple instances of servers up for parallel processing.

Job: Consultis of Tampa / Numara Software (now BMC) 2008-Sep to 2011-Mar Private. \$40+million
A premier provider of software for Help Desk, Service Desk, Asset Management, and more.

Position: Senior Consulting Software Engineer for Professional Services at Numara Software (Microsoft Windows, Linux, Solaris, FreeBSD, oo-perl, multiple SQL, HTML, VMWare, Virtual Box, Virtual PC, JavaScript, shell scripting, make, ISS web servers, Apache Web servers, documentation, XML, LDAP).

- Minor to major enhancements to oo-perl FootPrints product. Most enhancements were merged into the product. Required lots of digging into existing code and working with complex hashes and array structures.
 - Built many VMs for Windows (Servers, XP) and Linux systems (Debian, CentOS, ...). Including a SME Server used as a mail server, LDAP server to reduce consumption of corporate IP addresses.
 - Heavy use of perl's Test::More to make regression tests with custom Test::Harness front-end
 - Diagnosed and fixed critical, and highly high visibility, serverity-1 problems at major customers.
 - User Interface design for new features being added to FootPrints product.
 - SQL: Microsoft, Oracle, MySQL, and Postgres.
- Provide crisis support to Software Development and Support departments for urgent and critical problems.
- Proposed changes to the perl style guide to improve programs.
- Estimated effort for customizations requests from customers, including writing User Interface Specification, Requirement discovery, requirement specifications, and system design Specifications.
- Wrote more documentation on various subjects than any other developer.
- sshfs mounts between development hosts for more efficient bulk file transfers.

Job: Case Interactive/Avaya 2008-Jan to 2008-Jul - short term W2 contracting position \$5 billion
Major leader in enterprise communications and unified communications, including IP telephony solutions.

Position: Software Engineer (HP-UX, C, gdb, make, XML, Sablime, sccs, shells, make, Linux, perl, LWP, DBI::Informix, Net::FTP, Module::Build, IBM MQ Series, Informix SQL, ISQL, team leadership)

- Gathered requirements from multiple documents and people to produce different requirement documents.
- Helped migrate legacy C application to new platform. Including embedded Informix with performance goals.
- Selectively migrate database rows to new host.
- Delivered middleware perl program using Net::FTP automating transfers between proprietary servers.
- Documented aspects of complex legacy application.
- Enhanced legacy middleware between old/new systems, which included writing code for a new MQ queues.

Job: Cheetahmail. 2007-May to 2007-Dec (Manhattan) private

Major provider of specialized, high-volume, Internet service. Heavy open source. Perl shop.

Position: Software Engineer (Perl, DBI, Apache, TemplateToolkit, mod_perl, shells, XML, and SQL, UTF-8.)

- Developed front-end and back-end software for new mailing GUI and some work on back-end processors.
- Used Perl's DBI class to connect to SQL database and home-grown MVC class.
- Enhanced, and documented, Template Toolkit templates used in production web pages.
- Consulted system architects, CSS style guides, and others, when designing the modules I wrote.
- Wrote documentation appreciated by others on internals of system.

Job: Vonage Network. 2006 to 2007-Apr restructuring (Holmdel, NJ) \$195 million

Provider of Voice over IP telephone services over subscriber's existing broadband connection for over 2 million customers. Heavy open source.

Position: Software Engineer (Perl, LWP, DBI, RH Enterprise Linux, Solaris, make, shells, package building, rrdtool, CVS, SNMP, OpenNMS. C, XML, SOAP)

- Part of NMS team improving network monitoring software and integrating multiple monitoring components.
- Reviewed published MIBS and OIDs of discovered network devices to better probe them. Part of team designing User Interface to help network engineers drill down into observed results.
- Used Perl's DBI class to connect to various databases.
- Wrote extensive documentation for users, installers, and developer requirements.

Job: Lumeta Corp. 2004 to 2006 (Somerset, NJ) \$9.7+ million

Network security company, discovers true network maps of customers to increase network security and performance. Used by many the U.S. Government, major banks, and others with network security concerns.

Position: Software Engineer (perl Open Source shop, FreeBSD, Apache, LWP, SSL/TLS, certificates, C, build master, backups, kernel internals, kernel programming, kernel panic resolution)

- Primarily back-end OO-perl and shell scripts notable C operations. Some C++ and front-end JavaScript.
- Introduced mod_perl for custom HTTP/SSL authorization and speed up response time.
- Perl class to send serialized perl objects over HTTP/SSL/443 to integrate distributed servers.
- Server to move files across security zones of network.
- Built custom FreeBSD releases for delivery with product. Include customizing, patching, compiling kernels.

- Extensive refactoring of existing installation and upgrading of FreeBSD and associated Lumeta application. Included extended text-based user interface used by upgrades. Troubleshoot customer problems.
- Enhanced netboot design under FreeBSD PXE loader to dynamically determine system to be booted at boot time. Enhanced “floppy boot” and sysinstall configurations to automate previous manual configurations.
- Automated the building of product in standard build environment as well as product manufacturing.
- Wrote extensive technical documentation [Open Office, TWiki, Microsoft Office; PDF; and Visio].

Job: Consulting 2001 to 2004 Heavy open source use.

- Enhance software previously developed for Los Angeles Times. [AIX, C, shell scripts, sockets, perl, threads, kernel builds, kernel panic resolutions, electronic data interchange between diverse systems].
- Setting up Linux as 802.11(b) wireless AP for ISPs with web based UI to configure system. [Red Hat Linux, kernel, arp, route, kernel modules, IPC, TCP/IP network, Linux administration, perl, Apache, cgi-bin, SSI, CGI.pm, CVS. bandwidth shaping, MAC restrictions]
- Technical writing and some contributions to Open Source applications. [C, Linux, cgi-bin, wwwcount]:

Job: Ariel Corporation 2000 to 2001 (Cranbury, NJ) (company closed)

Provided hardware to ISPs to reduce costs of connecting customers to the Internet by directly using T1 lines. Small company that had a major impact on this market. User of open source.

Position: Linux Software Engineer (Red Hat, C, perl, kernel builds, device drivers, TCP/IP, Linux internals).

- Maintained and enhanced 48-port Linux modem driver, implementing SMP [C, ClearCase, ClearQuest]
- Help stabilize product [Linux, C, make, shells, system calls, zombies, application and kernel driver fixes]
- Enhanced productivity by improving Linux access to ClearCase on Sun server [Linux, Solaris, perl, sockets]
- Enhanced Users Guide in general and describe new dual-board installations in particular. [Windows, Word]
- Other technologies: C++, Apache, ClearQuest, TCP/IP Client/Server, kernel panics, ICP, SQL, and testing.

Job: Tyco Submarine Systems, Ltd. 2000 to 2000 (Eatontown, NJ)

A spin off of AT&T Submarine Systems sold to Tyco, a premier provider of undersea fiber optic cables.

- *Position:* Sr. Software Engineer. Main activates include:
- Help maintain and enhance legacy C "Line Monitoring Equipment" (LME) with heavy TCP/IP networking. Work with QA department. [AIX, C, shell scripts, system calls, sockets, ISO 9001, RPC].
- Improve user interface for installation and upgrade software to support new features and hardware.
- Completed a stalled rewriting of selected Installation and User Guide chapters due to change of hardware.
- Other technologies: magnetic and virtual tapes, perl, miniSQL, C++, Adobe Distiller, Solaris, Sablime.

Job: AT&T Labs 1996 to 2000 (Lincroft, NJ)

In group providing internal technical consulting for AT&T, for credit, billing, software, calls, and Y2K.

Position: Sr. Software Engineer. Highlights include:

- Lead migration of mainframe C application to Solaris environment [C, shells, Solaris, MVS, JES3, JCL]
 - High performance electronic data exchanges between IBM mainframes and Sun workstation.
- Assorted customization of other different applications [C, shells, Solaris, remote backups, TCP/IPV4.]
- Administered and technically lead AT&T Labs Y2K program for all self-maintained equipment [Solaris, Linux, HP-UX, C, C++, perl, Java, Java Script, Apache, cgi-bin, shells, system calls, SQL, Fortran, LDAP]

Job: Independent Consultant. 1993 to 1996 (New Mexico)

Position: Computer Consultant for UNIX / Internet / World Wide Web / etc. Heavy use of open source.

- Take custom applications through full software lifecycle. [Linux, Solaris, C, C++, shell scripts, perl]
- Created web pages for various businesses early to web. Software for on-line orders and generating web pages. [Solaris, Apache, cgi-bin, E-mail, perl, image and graphic scanning, custom graphics, JavaScript]
- Software to automate reformatting and typesetting Los Angeles Times reprints [AIX, C, ksh, and PostScript]
 - Exchanged data between Mainframe and Sun server where reformatted output to be sent out by FAX.
- Support triple-I customers on legacy products triple-I had dropped support on. [Solaris, C, virtual tapes]

Job: Information International (a.k.a., triple-I). 1980 to 1992 (Culver City, CA) \$30 million

Manufacturer of igh-end typesetting equipment for U.S. Government, companies, such as *Time Magazine*, *The Wall Street Journal*, RR Donnelley, McDonnell Douglas Aircraft, and other medium sized to Fortune 100s.

Position: Staff Software Engineer III.

- Maintained all levels of proprietary OS [III-OS, assembler, kernel, networking, multithread, drivers]
- Lead projects to network many systems [C, Solaris, TCP/IP, serial port feeds, X.25, testing, data conversions, file transfers, MVS/JCL, magnetic tapes, high performance virtual tapes, reverse engineering]
- Programs to compose text, manipulate composed text, and process images. [III-OS, assembler, SunOs, C]
- Wrote documentation, installed new software products, provided phone support, and trained customers.

EDUCATION:

California State Fullerton: Computer Science

Fullerton College: Electrical Engineering