Karl N. Redman

karl.redman@gmail.com / **karlredman.homeip.net**

Experienced Linux Software & Systems Engineer

Summary:

Accomplished Linux Software Engineer with extensive Systems Engineering experience in the full life cycle of software development and Release Engineering. Primary skills include a wide range of application development with various programming languages supported by the technical ability to build and administer system infrastructure.

TECHNICAL EXPERIENCE

Programming Languages:
> C, C++, Perl, PHP, Python, Awk Expect, Java, sed, shell scripting, Javascript, Tcl/Tk, Pick Basic, Basic, Quick Basic, MASM, COBOL/CICS.

Programing Interfaces:
> Standard Template Library (STL), POSIX, TCP/IP & UDP (Sockets), Interprocess Communications (IPC), SQL (various), RPM, PKG, GTK, MFC, WIN32, Expect, X Windows, XSLT, HTML5, XML, CSS, CGI, AJAX.

Systems Administration:
> Linux (Many Distributions), AIX, HPUX, ATT UNIX, SCO, QNX, BeOS, Solaris (SPARC & Intel), DOS 3.2 - 6.0, Windows 3.0 – current (Desktop and Server).
>
> Source Code Control (CVS, Git, Hg, SVN, ClearCase) , Redmine, Trac, Jira, Apache2 HTTPServer, NFS, Samba File Server, X Server support.

Systems Engineering:
> Network installation and design. , Backup and recovery, user security, Solaris Install Server, Nagios (System monitoring), serial interfaces (multiplexing), dumb terminals, X Terminals, printer installation and maintenance, network switches and routers (Cisco and Dell).
>
> SCSI (RAID), IDE, SATA, and SAS storage devices. Lustre File System for HPC. Torque, Slurm & SOGE HPC schedulers. Perseus, Warewulf and Microsoft HPC provisioners. Infiniband installation and configuration for HPC.

Project Management And Support Roles:
> Release Engineering management and lead for both fixed and rolling released products of a mid sized company. Career long process and work flow automation engineer. Application development team lead. UML and use case communication. Agile (Scurm) product owner, developer, and master. Product packaging and design engineer. Build systems automation engineer, developer, and department manager.

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WORK EXPERIENCE

R Systems N.A. Inc.   December 2012 – January 2016
   Custom *High Performance Computing Service Provider for Academic and Corporate Institutions.*

- Systems Engineer and Administrator for a wide variety of High Performance Computing (HPC) infrastructures. Installed and maintained servers and nodes within the data centers,

- Provided customer support for all aspects of the cluster environments. Cabled, configured and managed customer networks (including switch configurations for Infiniband). Installed and administered cluster provisioners, schedulers, operating systems, and customer applications.

- Developed a build system for compiling, installing and configuring Warewulf provisioner and Slurm scheduler. Wrote automation software for erasing large numbers of storage devices. Built and many smaller scripts for various customer reports and other administrative tasks.

Wolfram Alpha, Inc. / Wolfram Research, Inc.   January 2009 – October 2012
   Makers of computation software such as Mathematica and Wolfram Alpha.

- Manager of Release Engineering Department for all products developed, tested and released by the respective companies. The position included: developing and maintaining application distribution packaging across 10+ sub products, managing a staff 5+ developers, and developing and administering various custom product build environments.

- Team Lead for Wolfram Alpha weekly product releases. As leader of this team we accomplished 78 weekly product releases over the period of 84 weeks. The only delayed release were due to scheduled holiday seasons.

- Original developer of the Wolfram Alpha data distribution automation system. This was a complex build system that automated the integration of source code and data by over 100 developers into the end product.

DoubleClick, Inc. / Google, Inc. (contract)   March 2008 – May 2008
   Display advertising and keyword search enhancement / reporting company.

• Perl and SQL development and code maintenance for the company's Search products. Started performing bug fixes within the first 2 weeks of employment.

• Trained in both Affiliate and Search product architectures.

• Basic Google engineering employee training -technologies and culture.

WORK EXPERIENCE
(continued)

Market Systems, Inc. / Thomson Financial, Inc.   June 2005 – July 2007
SEC Automated Exception Compliance Reporting.

• C++ code maintenance of Exception Reporting applications. \

• R&D real-time exception reporting applications – front-end & back end (Python [QT Libs, PDF Libs, WxLibs], C++, Java, XSLT, JavaScript [Dojo, GWT], PHP). These experimental applications were created in order to explore new technologies.

• Technical Administration: Server, network, and switch, hardware maintenance.

• Server Administration: Apache, Cisco PIX firewall, VPN, Nagios, SVN, Trac.

TransUnion, Inc. (contract)   January 2005 – June 2005
Credit Score Model Reengineering.

• C++ code conversion of financial scoring models originally written in C.

• Code conversion entailed pattern recognition and the development of some C code pattern searching utilities written in Perl.

• Won the first Fathom, Inc. "Be The Model" award for providing several developmental process improvements including data integration, informational presentation, project management, and quality control.

• Work was performed and tested on Windows 2000 and then re-tested on an IBM S390 Mainframe.

Midphase Services, Inc.   July 2004 – October 2004
Startup Web Hosting Services Provider.

• Engineered Requirements and Specifications for the development of a World Wide Web based billing, help desk, and reporting system. The system was to utilize Semantic Web technology (RDF OWL) and development efforts were well underway, using C++ and Python, when the project was canceled.

• Maintained all Source Code Control (CVS), Project Management, Operation System and support applications installation, and development environments.

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WORK EXPERIENCE
(continued)

Freelance Consultant (contract)   April 2002 – July 2004
A progressive personal consulting business.

• Performed C ++, Client/Server, and IPC maintenance for the current code base of a credit card processing system for a large transactions company.

• Developed and engineered a Content Management System for a web site hosting company using PHP.

• Engineered an object-orientated automatic trading system software design specification. The specification was written UML compliant.

• Maintained web site back-end and security for several clients (using Perl, PHP, C, C++, Sockets and SQL).

• Developed an SQL and GTK based Caller ID Client / Server GUI application and database system that tracks incoming personal and business calls.

• System and network installation / administration coordinator.

Verascape, Inc.   February 2001 – October 2001
Innovator of a product which integrates telecommunications technology with voice recognition software.

• Coordinated Operating Procedures and Development Coding Standards utilized by co-developers.

• Established and wrote installation procedures, specifications, and integration criteria for the end product.

• Performed C/C++ developer support and mentoring with co-developers.

• Spearheaded Application Build and Product Integration systems development.

• Co-engineered the realization of object-orientated C++, Sockets, IPC and SQL software applications.

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WORK EXPERIENCE
(continued)

Lucent Technologies (contract)   July 2000 – December 2000
A nationally recognized telecommunications company.

• Member of the APLG -a wireless technology (TDMA / CDMA / AMPS / 3rd generation) Quality and Assurance branch of the company.

• Maintained current source code while engineering various feature implementations for Bell Laboratories' cellular telecommunications Q&A testing applications using C++.

• Developed and documented an Intranet Laboratory Testing Support Web site used by other developers for software development and testing purposes using Perl.

The Helios Group, Inc. / Bear Stearns, Inc.   January 2000 – May 2000
A financial trading firm that utilizes cutting-edge technology to gain an advantage in European and U.S. options markets.

• Held Lead Design Engineer and Programmer position for the development of a real-time object orientated automated financial options trading application. The final product was written in C++ and used threads and other forms of interprocess communications.

• Ported several AIX modular C programs to Solaris object-oriented C++ applications.

• Software Developed included multi threading, Sockets, Semaphore & cross – platform programming.

HyperFeed Technologies, Inc.   October 1997 – December 1999
A real-time financial data delivery provider.

• Functioned as Engineer, C++ Developer, and Project Manager of a real-time financial data client/server SDK/API for Solaris, AIX and Linux.

• Engineered and developed several database maintenance applications for in-house use using MFC, C++, Perl, and C.

• Programmed several cross-platform (UNIX and Windows) data quality testing applications using C and C++.

For more in-depth information see http://karlredman.homeip.net/
Contact information is available upon request.