

# Don Murray, P.Eng.

Calgary, AB

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## Summary:

Dedicated software engineer with over twelve years experience as an architect, designer and developer of robust server applications for industrial installations in Oil & Gas, SCADA, and equity trading. Adept at quickly understanding complex problems and developing novel solutions. Experienced team leader and valuable team player; skilled communicator and group facilitator. Eight years professional experience using open source (Linux, Perl, MySQL, Apache). Currently pursuing Sun Certified Java Programmer.

## Career Highlights:

- Designed and developed application to perform fully automated and unattended upgrades of a fleet of 1800 remote Linux networks for drilling rigs. Used Pason's auto-aiming VSAT dish for broadband connection to a central server, eliminating the need to send field technicians out to remote locations.
- Designed and developed reliable MySQL database backup/restore application using LVM snapshots.
- Eight years experience using Perl and OO Perl for applications, CGI, system administration, and automation.
- Five years demonstrated expertise in Linux.
- Five years experience with large scale system administration.
- Designed core infrastructure for new Linux product development: recursive make, automated unit testing, automated build farm, developer and release deployment.
- Mentored five developers from initial hire to P.Eng. status.
- Quickly demonstrated proficiency with EFA's automated trading system.
- Designed and developed a steady-state hydraulic modelling application for use with liquid pipelines.

## Computer Skills:

- Languages: Perl and OO Perl, Regular Expressions, C, C++, Java, Bash, SQL, HTML, XHTML, XML
- Languages (Familiar with): CSS, JavaScript, Expect, Ruby
- Development tools: SVN, CVS, RCS, make, ant, GCC, UML, Perl's Test::Unit, CppUnit, Junit
- Databases: MySQL, Sybase, Oracle
- Tools & Technologies: kickstart, yum, RPM, LVM, iptables, TCP, UDP, VMware, nmap, Wireshark
- Services: Apache, BIND, dhcpd, ntpd, sshd, cfengine, OpenVPN
- Operating Systems: Linux (2.4 & 2.6 kernel, Red Hat Enterprise Linux, CentOS, Fedora, Ubuntu), Windows 9x/2000/NT/XP, Open Solaris

## Experience:

### *Software Engineering Architect, Pason Systems (January 2007 – March 2009)*

- Designed inter-site communication standards using JMS and HTTPS.
- Expert for Linux OS, Perl, Regular Expressions, Cfengine, and autonomic.
- Performed design reviews, code reviews.
- Created and chaired weekly team meeting to improve the sharing of knowledge, best practices and solutions to common problems.
- Created branch management policies for parallel development, release management.
- Encouraged feature-based agile releases based on user stories, emergent design, test-driven development, and refactoring.
- Met weekly with other architects to share innovations, improve knowledge transfer.
- Encouraged developers to continuously improve; encouraged continuous improvement of the development process.
- Created high level designs for:
  - generic software update mechanism;
  - development system life cycle management (PXE network boot, kickstart provisioning, yum and cfengine for ongoing maintenance);
  - centralized management of distributed fleet of Linux systems on land-based drilling rigs;
  - 802.1x network using PPP over Ethernet.
- Researched and selected CentOS 5 as replacement for legacy Red Hat 7.2 installations.

***Senior Software Engineer, Pason Systems (May 2001 – January 2007)***

- Designed and developed: method for automated and unattended remote system upgrades over a VSAT network; method for performing unattended transformations of 8GB MySQL databases; application for mass producing Linux hard drives.
- Designed core, back end software components for system backups, management of removable hard drives, and system upgrades.
- Converted application deployment system from tar files to auto-generated RPMs.
- Created coding standards, unit testing standards.
- Key developer in conversion from DOS/QNX-based product to Linux servers with Windows 2000 clients.
- Firmware programming for an Intel 8051 microcontroller in a hook load sensor.
- Configured and administered new CVS server, replacing Visual Source Safe.
- Provided after-hours technical support of applications on drilling rigs.

***Senior Programmer Analyst, EFA Software Services Ltd. (November 2000 – May 2001)***

- C development (object-oriented), unit testing, QA, and maintenance for high-performance equity trading engine.
- Responsible for peer code reviews, technical documentation.
- Created Perl productivity tools for developers.

***Senior Systems Engineer, Neles Automation (now Telvent) (October 1999 – November 2000)***

- Designed and developed real-time multithreaded Publish/Subscribe network layer in C++.
- Co-engineered middleware interface for Colorado Springs Utilities.
- Enhanced Chevron Pipe Line's leak detection application, to minimize false alarms.
- On-site support of Colonial Pipelines' batch tracking and metering applications.
- Project Leader for Marathon SCADA upgrade. Responsible for estimates, scope, and developer supervision.

***Systems Engineer, Neles Automation (now Telvent) (December 1996 – October 1999)***

- Designed and implemented head conversion for hydraulic profiling application.
- On-time delivery of temperature and pressure correction calculations for Kenya Pipeline Company.
- Successful upgrade of an 18GB Sybase database, and Y2K remediation for Chevron Pipe Line.
- Co-ordinated monthly software releases of Liquid Management System applications.

***Design Engineer, Engineered Air (October 1994 – November 1996)***

- Designed finned-tube heat exchangers for HVAC equipment, and certified steam heating coils.
- Maintained Fortran/BASIC application for design of heat-pipe-based heat exchangers.
- Installed and administered Lantastic 6 network.

**Education and Training:**

- Introduction to Requirements and Business Analysis, and User Story Workshop, Quadrus (2008)
- Driving Innovation in a Lean Environment, Queen's School of Business (2008)
- Large Installation System Administration (LISA) '08 – The Linux 2.6 Kernel, RRDtool, Cacti, Nagios
- LISA '07 – Cfengine, Over the Edge System Administration, Thinking About Security
- Coaching for Employee Engagement & Development, Emerge Learning (2007)
- Essential Coaching Skills, Mary-Ann Owens (2007)
- Red Hat Certified Engineer (2004, 2007)
- SMART Management, Dr. Francis Hartman (2006)
- APEGGA – Software Development Conf. (2006)
- OO Analysis and Design with UML, Quadrus (2005)
- MySQL Pro Certification (2003)
- Leadership for Technical Managers, University of Calgary (2000)
- Bachelor of Science, Mechanical Engineering, University of Manitoba (1989-1993)

**Memberships:**

- APEGGA – Professional Engineer since 1997
- IEEE Computer Society
- USENIX/SAGE
- Calgary Agile Methods User Group
- Calgary Agile Project Leadership Network
- Calgary Open Source Group