

Kirk Petersen

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PROFILE

Senior software engineer with experience developing scalable and secure network protocols and applications. Skilled at learning new technologies and applying them in practical ways. Utilizes agile software development methods to deliver solid code quickly.

EXPERIENCE

Software Engineer IV, Cray Inc. 2007-2009

- Developed a high speed parallel I/O system for the Cray XMT massively multithreaded supercomputer.
- Completed two major I/O milestones, including 4 GiB/s milestone on the 512 processor system.
- Maintained most I/O code in the runtime and OS, including TCP/IP and SeaStar driver for XMT.

Senior Software Engineer, Lockdown Networks 2005-2007

- Developed the daemon at the heart of the Lockdown Enforcer that was responsible for securing traffic between quarantined devices and production networks.
- Gained extensive knowledge of the Ruby programming language, managed switches, VLANs, and bridging.

Senior Software Engineer, WatchGuard Technologies 1999-2005

- Developed the kernel component of the Firewall Pro proxy architecture, including a custom TCP/IP stack and socket API that were optimized for scalability, high throughput, and transparency. Worked on other core programs and libraries of the proxy system.
- Enhanced unit testing framework to allow the proxy team to easily craft complex networking scenarios to verify code. The proxy team's productivity was increased greatly as a result. Subsequently, most development was done in the test framework, with confidence that the results would transfer to the embedded environment.
- Responsible for improving the performance of the proxy system to satisfy several different bandwidth and scalability benchmarks.
- Maintained and enhanced kernel modules and core user programs on the Firebox II and III product lines from 1999 to 2002.

Software Engineer, Lariat Software 1998-1999

- Java programming at Lariat Software. Design and implementation of streaming media applications.

EDUCATION

The Evergreen State College, Olympia, Washington B.S., Computer Science, 1997

SKILLS

- Languages: C, Ruby, C++, Java, Objective-C
- Operating Systems: Linux, Mac OS X, BSD UNIX
- Protocols Implemented: TCP/IP, DHCP, HTTP, VNC, VRRP, Proxy ARP
- Applications and Tools: Emacs, vi, SSH, GCC, GDB, Subversion, Perforce, Oprofile, Valgrind
- Databases: MySQL with Java and Ruby interfaces
- Embedded: Experience working with cross compilers, boot loaders, and minimal memory footprints
- Linux kernel: Patches submitted and accepted for module loading and networking