

## Erik Hovland

I am a Systems Programmer with a wide range of experience including Unix system administration, real time programming and systems programming. My systems background includes writing device drivers and software to control hardware in hard real time situations. As a Senior System Administrator I have implemented and supported several aspects of the field including Internet services and backup/restore services. I have deep problem solving skills honed by experience in the field on active systems. I have strong scripting experience to compliment my systems programming experience. I work well in teams and have managed small teams.

### Technical Skills

#### *Operating Systems*

Solaris, Linux, VxWorks, Windows variants.

#### *Languages & Tools*

C/C++, Perl, Unix Shells (Bourne & tcsh mainly), ACE/TAO, awk/sed, Common Lisp (academic work only), Python, VisualBasic, Tornado, GNU tool chain, CVS, RCS, bitkeeper, vim, Unix, LEGO robot prototype kit.

#### *Standards & Protocols*

TCP/IP, NFS, NIS+/YP, CORBA (using ACE/TAO), Socket Programming, SMB, X11, SSH, Jumpstart, RAID, SMTP, FTP, NTP, USB.

#### *Server Applications*

Samba, Apache, WU-ftpd, Oracle, PostGRESQL, MySQL, License Servers, Sendmail, Postfix, majordomo, tcp wrappers, ipfilter, SunScreen, Amanda.

#### *CPUs/ $\mu$ Controllers*

SPARC family, 68HC11, PowerPC family, ARM, 8051.

### Education

#### *M.S. in Computer Engineering, received 1999*

from the University of Southern California. Concentration in robotics. Adviser: Dr. Monte Ung.

Masters focusing on aspects of robotics including Artificial Intelligence, Behavior based systems and standard control based systems. Basic work in processor design and implementation, operating systems design and implementation.

#### *B.S. in Electrical Engineering, received 1994*

from California State Polytechnic University, Pomona. Concentration in Instrumentation. Minor in Physics.

### Professional Experience

#### *2004-present*

Senior Programmer, Jet Propulsion Laboratory.

Design and implement real time systems using VxWorks on PowerPC embedded computers to make optical interferometers for ground based telescopes. Work involves implementing drivers for hardware, classes to control hardware systems and supporting applications for testing and general infrastructure, all written in C++. Contribute to and maintain as release manager and principle engineer of the in-house Real Time Control library used to facility making real time systems for interferometers. Writing documentation for users of system and users of in-house library. Working system is the Keck Interferometer at the Keck Observatory - Mauna Kea, Hawaii.

- 2000-2004* Contract Programmer, Columbus Technologies & Services (was User Technology Associates). Primary contract with the Jet Propulsion Laboratory.
- Designed and implemented real time systems using VxWorks on PowerPC embedded computers to make optical interferometers for ground based telescopes. Work involved implementing drivers for hardware, classes to control hardware systems and supporting applications for testing and general infrastructure, all written in C++. Contribute to and maintain the in-house Real Time Control library used to facilitate making interferometers. Writing documentation for users of system and users of library code. Working system is the Keck Interferometer at the Keck Observatory - Mauna Kea, Hawaii.
- Designed and implemented control systems and analysis systems using Solaris running on Sun SPARC based general purpose computers that search for near earth asteroids. Work involved implementing and maintaining software written in C++ and Perl to control telescopes and electronic cameras, providing data to analysis software and implementing parallel analysis of data. Working systems include the Oschin Telescope at the Palomar Mountain Observatory and the MSSS Telescope at the Air Force Observatory on Haleakala, HI.
- 1997-2000* Contract Senior System Administrator, User Technology Associates. Primary contract with the Jet Propulsion Laboratory.
- Senior System Administrator for Unix (primarily Solaris) and Windows (primarily WinNT) based computers supporting Science and Engineering applications. Included installation, upgrades using Solaris Jumpstart and support of over 50 systems and over 200 users. Directed a team of administrators in tasks and managed their work flow. Devised and implemented security plan for workstations and servers using tcp wrappers, SSH and ipfilter along with other items to harden security. Designed, implemented and supported ethernet network for 3 separate locations on campus. Implemented and maintained unified user/host namespace using NIS+/YP. Implemented and maintained shared resources like disk space and computing cycles using technologies like NFS, AFS, FTP and PVM. Implemented and maintained mail servers and mailing lists for users using Sendmail and majordomo. Maintained commercial software using license servers. Implemented backup/restore procedures using Amanda and assorted native tools. Developed custom scripts to perform redundant tasks automatically using shell scripting or Perl.
- 1995-1997* Contract System/Database Administrator, Rapid Systems Solutions Inc. Contracts with GTE, Mykotronics, Unocal, McKesson Pharmaceuticals.
- Designed, implemented and supported several projects including GTE's prepaid calling card service (DBA on Oracle 7), Mykotronics clipper chip and key escrow service for the NSA (C++ programming and DBA for Trusted Oracle 7), Fuel purchase point application for Unocal (implemented Veritas HA for Oracle 7) and Pharmaceutical Purchase Data Mining application (programming UI in VB, DBA on Oracle 7).
- 1994-1995* System/Database Administrator, Hughes Aircraft Corporation.
- Designed, implemented and supported configuration management application for F-15 radar project, parts management for F-15 radar project using Oracle 6, Interleaf and VB. Designed and implemented Requirements Traceability application using Oracle 7 and VB.
- 1992-1993* System Administrator Intern, Fisher-Rosemount.
- Implement and support systems running VMS and SunOS to support Research and Development of products to control manufacturing facilities. Worked with Senior System Administrator supporting more then 30 users and more then 40 systems. Implemented backup/restore system. Implemented new network architecture.
- 1988-1992* Telethon Operator, World Vision Inc. Provide customer service for Child Support program.

## Training

- Learning Python* Taken January of 2005 over three days. Taught by Mark Lutz. Provides a novice to intermediate lessons in how to use Python on Unix and Windows based platforms.

## Awards

### *JPL Technical Excellence Award. 2001*

Given for technical achievement as part of the Keck Interferometer Development Team that achieved 'first fringes'.

### *Asteroid Awarded, (15621) Erikhovland. 2001*

Named because of the extensive work done for both the MSSS and Palomar Installations of the Near Earth Asteroid Tracking project (NEAT website <http://neat.jpl.nasa.gov/>). Asteroid discovered with system implemented at MSSS.

### *Division Team Award*

Given because of participation in the development, integration and test of the Palomar Mountain Installation of the Near Earth Asteroid Tracking project.

### *Nasa Group Achievement Award*

Given because of participation in the development, integration and test of the Palomar Mountain Installation of the Near Earth Asteroid Tracking project. This installation is now the second most productive asteroid detection site in the world.

### *Nova Award. 2000*

Given for excellence in System Administration support to the Optical Interferometer Section (383) @ JPL.

## Presentations

### *Perl Could Save Your Life*

Presentation for the new and intermediate Perl user based on real life examples used in the Near Earth Asteroid Tracking project's code base. Given to UUASC-LA, May 2001 and at JPL October 2001.

## Community Involvement

### *USCLUG*

USC Linux User Group. Founding member and former president. Organized events and meetings. Facilitate other students in learning about Free Software and its benefit.

### *SCALE*

Southern California Linux Exposition. Involved in Invited Talks committee. Organized the appearance of several noted Open Source developers at the only Linux focused exposition in Southern California.

### *handhelds.org*

Linux on handheld computers. Regular contributor to several mailing lists (h5400-port, kernel-discuss and familiar) on a range of topics including Linux kernel development on arm based handheld computers, familiar distribution fixing, driver development and porting of handheld computers to the Linux 2.6 kernel. See Handhelds.org <http://handhelds.org/> and Hovland.org Familiar section <http://hovland.org/familiar>

### *LACBC*

Los Angeles County Bicycle Coalition. Active member. Volunteered at various events. Member of initiative to improve cycling conditions in Glendale, CA.

### *JPL Bicycle Club*

Member. Current Bicycle Commuter Coordinator. Bicycle Commuter of the Month, July 2001.

### *Solaris PDA Driver*

(deprecated) Implemented a free driver for the USB HotSync cradle for PalmOS PDAs under the Solaris operating environment. See Hovland.org <http://hovland.org/solaris/>

## References

Available on request. Coding reference available at [hovland.org](http://hovland.org) <http://hovland.org/familiar>.