

# Aaron Fabbri

[ajfabbri@gmail.com](mailto:ajfabbri@gmail.com)



Senior software engineer specializing in Networks / Distributed Systems, Filesystems, and Security.

## Specialties

Software development lead and project management. Performance-critical code. Low latency messaging (HFT etc.). FreeBSD and Linux kernel/user development. Scalable, fault-tolerant systems, network protocol design and implementation. Web/enterprise security and performance.

## Experience

### Cisco Systems

06 / 2006 - Present

#### Technical Lead

- Lead developer for low latency, kernel-bypass drivers for the Cisco Virtual Interface Card (VIC), a 10 GbE adapter which supports both hypervisor and kernel bypass.
- Lead architect and developer of Cisco Datagram Acceleration Layer (DAL), an ultra low latency (ULL), kernel-bypass UDP/IP network stack which accelerates unicast and multicast traffic over InfiniBand and 10 Gig Ethernet networks.
- Wrote hardware requirements for OS-bypass and worked with multiple 10GbE NIC vendors on next generation silicon features.
- Accelerated performance of top market data middleware (Tibco RV, 29West LBM, Wombat, Reuters RMDS, MRG) with or without help of the ISVs. Google "Cisco DAL" for press releases.

### isilon systems

2001 - 2005

#### software developer

- Primary developer of new InfiniBand (IB) network stack based on FreeBSD and Linux. Project was a success: We were the first clustered storage system to ship an IB back end, outperforming Gigabit Ethernet and reducing host utilization. Implemented seamless fail-over and a number of kernel optimizations.
- Developed high-performance distributed filesystem code and modifications to a well-known open source kernel. Responsible for key early filesystem features such as multiple drive support.
- Increased filesystem and NFS server performance by analyzing network traces and kernel profiles, redesigning distributed algorithms, and modifying server code.
- Modified network and disk controller drivers to add features such as host

bus error detection and sector remapping support.

- Turned a disaster scenario into a top repeat account by designing and executing a delicate data recovery operation.

## **University of Oregon**

04 / 2000 - 06 / 2001

*Graduate Research Fellow*

- Increased performance of content distribution networks using Linux, IP Multicast, C/C++, TCL, and Perl.
- Designed and implemented multicast routing protocols and wrote protocol specifications. Wrote automated test tools, evaluated performance, and presented results.
- Designed and programmed efficient network simulations, processed data, and plotted graphs.
- Co-authored two original research papers and attended networking conferences and workshops.
- Designed and built a multicast-enabled Linux cluster for testing network routing protocols.

## **Environmental Protection Agency**

06 / 1999 - 09 / 1999

*Software Engineer*

- Developed scientific computation and data acquisition software using C, Java, Perl, SQL, and TCP/IP.
- Implemented, tested, documented, and deployed application-layer protocol for collecting environmental sensor data.
- Supported research staff as a contractor to the U.S. Environmental Protection Agency (EPA).
- Administered Oracle database system including performance tuning, backup and restore, reporting, and UNIX Solaris and Linux administration.

## **Entertainment Data Solutions**

01 / 1998 - 06 / 1999

*Senior Software Engineer*

- Designed and implemented multi-user database-driven point of sale and inventory management software using (Java, SQL).
- Developed Internet messaging client and server to reduce customer support costs and improve response times.
- Installed and tested Ethernet networks, servers and clients at customers' sites.
- Designed and built company network and services; Routers, Switches,

Linux, Windows NT, Apache, Sendmail, CGI, etc...

**Education**

**University of Oregon**

1999 - 2001

*MS , Distributed Systems*

**University of Oregon**

1993 - 1997

*BS , Computer and Information Science*

**Honors**

Cisco Individual Achievement Award, September 2007