

Aron Griffis

Summary

Fifteen years experience coding solutions at every level of the software stack, with deep expertise in web technologies, networking, security, virtualization and Linux distributions. Specializing in web applications powered by Python and Django, both customer-facing high-traffic web sites and scalable back-end HTTP/REST services.

Fluent in Python, Django, MySQL, HTTP, HTML, CSS, Javascript, jQuery, AJAX, JSON, XML, XPath, XSLT, Perl, PCRE, Ruby, Bash, C, Nginx, Apache, Linux, networking, virtualization, clustering.

Career

Python/Django Web Developer for ePrintCenter

Hewlett-Packard, 2010–present

ePrintCenter is both a customer web site for configuring HP's web-connected printers, and the constellation of web services behind the scenes to support those printers. I joined the team as a developer and grew into the role of technical lead for all Python/Django projects involving ePrintCenter.

- Led development of a centralized HTTP/REST back-end service to streamline the printer application lifecycle. The service uses pervasive caching to handle a high volume of requests without sacrificing correctness, and it's entirely covered by unit tests.
- Designed and implemented ePrintCenter exception handling to connect back-end service failures to appropriate end user messaging using Python decorators and AJAX.
- Designed and implemented localized caching of the ePrintCenter home page using Akamai to reduce the load on the Apache application servers by half.
- Built a production replica cluster to stage the rollout of multiple ePrintCenter releases, including upgrading major components such as Django and South.
- Automated printer simulator registration to facilitate development of the ePrintCenter web site.
- Installed and administrated Red Hat Enterprise Linux cluster providing virtual machines for developers.

Security Lead for Open Source and Linux Profession

Hewlett-Packard, 2009–2010

The OSLP is a formally-recognized collaboration between engineers inside HP, working across organizational boundaries to enable Linux as a viable platform in a predominately Windows environment.

- Led development of an externally-facing HTTP proxy accessible using SSL tunnels with PKCS#11 smart card, certificate-based authentication. This remote access service is now running as a pilot within HP.
- Wrote “access-hp” remote access client to use the HTTP proxy for general remote access from Linux.
- Worked with HP-IT to form a long-term plan to deploy OpenVPN for HP's non-Windows teleworkers.

Linux Virtualization Engineer

Hewlett-Packard, 2006–2010

HP makes high-end machines with large core counts and memory, ideal for virtualization.

- Led a successful cross-company effort (HP, Intel, Fujitsu, Red Hat) porting Xen/IA64 into RHEL 5, including Linux kernel patches and substantial changes to Red Hat's “grubby” tool for configuring the bootloader to use a hypervisor. This technology was delivered to customers as a “tech preview” in RHEL 5 and then fully supported in RHEL 5.1.
- Delivered a reference architecture based on the DL785 (a 48-core beast with 256 GB memory) running RHEL 5.4 with KVM. My NUMA-tuned configuration achieved sub-second response with 256 simultaneous guests. The white paper was published by both Red Hat and HP to meet a tight market-driven schedule.
- Wrote “tiler” utility (Bash) and parallelized test harness (Ruby) for VM provisioning and load testing, in support of building the reference architecture.

Linux Security Engineer

Hewlett-Packard, 2004–2006

Selling Linux into government and high finance requires officially-recognized security certifications. I wrote the “audit-test” harness (Bash) and “augrok” tool (Perl) which were used for successful CAPP and LSPP certifications at the time, and are still being used today for ongoing certification efforts by HP.

Tru64 UNIX Kernel Developer

Compaq, 1999–2004

Tru64 was a high-performance UNIX running on the Alpha processor. I joined the network team to develop the Ethernet drivers used by NASA, 911 call centers, stock market exchanges and major telephone carriers.

- Wrote Tigon3 Gigabit Ethernet driver consisting of 13k lines of threaded C, including a custom high-performance interrupt mitigation algorithm.
- Designed and implemented 64-bit network counters with backward-compatible ioctl.
- Debugged critical network driver issues for Ericsson and Motorola telco releases.

Network Engineer

Burlington Coat Factory, 1997–1998

At Burlington Coat Factory, I developed a unified printing system based on LPRng with the ability to print to any printer in the company, including the stores, from anywhere on the network. I also played a key role in helping BCF migrate from SunOS to Linux in the stores by prototyping the store back-end server using Red Hat Linux on SPARC.

Open Source

I have contributed to all the major Linux distributions and numerous upstream projects such as Mutt, Vim, GNOME, klibc and Django. Below are some of my favorites.

Gentoo Linux

2001–2007

Gentoo is a source-based Linux distribution, meaning that the system actually builds a customized version of itself on your machine rather than installing pre-built binary packages. I was one of the first developers to join the Gentoo team and played key roles in its development and leadership.

- Designed and wrote network startup code and initscript conf.d processing.
- Wrote and maintained the ebuilds for the largest packages such as baselayout, mozilla, firefox, ruby and vim.
- Wrote votify software used for all Gentoo internal elections. The software includes balloting, collection and ranking determination using the Condorcet method.
- Exceeded 13,500 CVS commits tracked by cia.vc
- Served in leadership roles as a Gentoo Council member and as one of the founding trustees of the Gentoo Foundation.

Keychain

Keychain is a command-line front-end to cryptographic agents such as ssh-agent and gpg-agent. It was originally conceived by somebody else, but I rewrote it to add features, port to non-Linux platforms, and add a comprehensive test suite. Keychain is now included in all the major Linux distributions.

Userpass

I wrote this command-line utility to solve the problem of securely storing username/password pairs. Userpass is written in Ruby, and uses a novel per-host database scheme to avoid merge conflicts on GnuPG-encrypted files.

Education

Bachelor of Arts in Computer Science

Taylor University, 1994–1999

Concentration in Intelligent Systems. CS network administrator as a freshman onward.

Sightings

Speaking

- “Window Manglement with Pywo” lightning talk at PyCon, March 2011.
- “Xen/IA64 Update” at Xen Summit, November 2007.

Publications

- “Scale-up Virtualization with Red Hat Enterprise Linux 5.4 on an HP ProLiant DL785 G6” published by HP and RH, 2009.
- “LPI Certification 101 Exam Prep” (parts 2 and 3) on IBM Developerworks, 2003.