

Brian Cunnie

Software Developer

1711 Washington St. Apt 8
San Francisco, CA 94109
cell: 650.968.6262
brian.cunnie@gmail.com

Objective

Not currently looking, but if I were, it would be for a four-day workweek software developer position in the San Francisco Bay Area, one accessible by public transportation, with pair programming and test driven development (TDD).

Skills

Programming Languages (Test Frameworks): Golang (Ginkgo), Ruby (RSpec), Python (unittest), Javascript/ReactJS (Jasmine, Jest), Java, bash, Perl, C, C++, APL, Assembler

Tools and Declarative Languages: Cloud Foundry CLI, BOSH, git, JetBrains's IDEs (Goland, RubyMine, WebStorm, PyCharm), Android Studio, CSS, HTML, Concourse CI, ZFS, SQL, svn

Operating System and Infrastructures-as-a-Service (IaaS): macOS, Linux, FreeBSD, ESXi (vSphere), FreeBSD, MS Windows, Amazon AWS, Microsoft Azure, Google Cloud Platform (GCP), VMware vSphere

Network Protocols & Services: TCP/IP (routing, DHCP, IPv6, NDP, firewalls (iptables and pf)), DNS (BIND, named, djbdns, PowerDNS), email (Sendmail, qmail, Postfix), HTTP servers (Apache, nginx)

Experience

Software Engineer, VMware (formerly Pivotal), San Francisco, CA
6/11 to present

- Autoscaler and Scheduler Team: maintained two cloud-based applications (written in a smorgasbord of languages: Golang, Kotlin, Java, Groovy, Bash). Much of the work was bug fixes and CVE mitigations through dependency bumps
- V3 Acceleration Team: enhanced the Cloud Foundry API (CAPI), a Ruby-based MVC application, to include new endpoints, new features. At the same time, enhanced the Cloud Foundry CLI, a Golang-based application, to take advantage of the new endpoints, new features
- TAS NSX-T: built automated test infrastructure to test interoperability between Pivotal's cloud offering (TAS) and VMware's software-defined network (NSX-T), addressed issues with appropriate organizations
- Cloud Operations: maintained Pivotal Web Services (PWS), Pivotal's public-facing Cloud Foundry. Deployed updates several times a week, addressed GDPR compliance, and diagnosed, remedied, and documented outages
- Operations Manager: developed and maintained Operations Manager, a Ruby on Rails application which acts as a front end to Pivotal's commercial Cloud Foundry and Kubernetes offerings
- BOSH CPI: maintained the Ruby-based Cloud Provider Interface (CPI), interface between BOSH and IaaS. Wrote the underlying API calls for AWS and vSphere. (Ruby)
- BOSH: maintained BOSH, a virtual machine (VM) orchestrator (Ruby)
- Release Engineering: wrote the tooling that tested the each release of the Pivotal Cloud Foundry software (Ruby)
- Toolsmiths: maintained vSphere environments used by the development teams

Systems Administrator, Arda Technologies (acquired by Google), Mountain View, CA
12/07 to 6/11

Provided computer support for an IC Design Startup.

- Managed the following machines:
 - 35 Linux machines (mostly RHEL5, one RHEL3, two Fedora (12,13)),
 - 20 Windows machines (mostly laptops, Windows 7, Vista),
 - 3 FreeBSD machines (2 firewalls, 1 backup),
 - 1 NetApp,
 - 3 DD-WRT WiFi access points
- Maintained DNS, LDAP, NFS
- Implemented a fairly complex backup system (using a combination of perl scripts, rsync, cron, svnadmin dump, ZFS snapshots)
- Configured firewalls (FreeBSD) and VPN (OpenVPN)
- Configured redundant Internet connections (Comcast Cable and AT&T DSL)
- Hand-crafted two iterations of the corporate website (using XHTML, PHP, and CSS)
- Troubleshoot and tuned as needed. Spec'd and purchased equipment as needed

Systems Administrator, Aeluros (acquired by Broadcom), Mountain View, CA
3/02 to 12/07

Provided computer support for an IC Design Startup.

- Managed the following machines:
 - 100 Linux machines
 - 20 Windows machines (Finance, Marketing, Sales),
 - 3 Solaris 8 (legacy license and print servers),
 - 2 HP-UX machines (offline Agilent 8k testers).
- Coded the chip-testing GUI in Perl/Tk for eval kits for our chips to the customers, modified to accommodate new product lines and new features
- Hand-built the external mail server using a combination of cyrus-imapd, sendmail, Apache, SquirrelMail, and OpenLDAP. Also implemented a calendar server using Apache, MySQL, OpenLDAP, and PHP
- Maintained firewalls, redundant internet connections, DNS, YP/NIS, NFS system internally, backups of our corporate intellectual property (IP), spec'd and purchased equipment

Extracurricular Activities

I run [sslip.io](#), a DNS service which maps specially-crafted hostnames to IP addresses. It made the top spot on Hacker News when I announced it.

I also run six servers in the [NTP pool](#) which carry an aggregate of 1% of the US NTP pool traffic (my Singapore servers carry an even higher percentage).

I am the maintainer of several BOSH releases that support my abiding interest in DNS, NTP, and HTTP: [PowerDNS](#), [NTP](#), and [nginx](#).

I (with Dmitry Kalinin) added [IPv6 support to BOSH](#).

I [contribute](#) to open source projects. My favorite contribution: updating Ruby's core library, openssl, to [correctly verify abbreviated IPv6 SANs](#).

I [blog](#) what captures my interest, including how to best organize your Golang unit tests ([1](#)), how to enable IPv6 on Cloud Foundry's HAProxy ([1](#)), benchmarks of a 10 GbE-backed NAS server ([1](#)), transferring time-based one-time passwords to a new smartphone ([1](#)), uncovering a man-in-the-middle SSH proxy ([1](#)), how to install a TLS Certificate on vCenter server appliance (VCSA) ([1](#)), benchmarking the disk speed of IaaS ([1](#)), deploying BOSH VMs with IPv6 addresses to vSphere ([1](#)) and to AWS ([2](#)), maintaining BOSH Directors with Concourse CI and bosh-deployment ([1](#)), why is my NTP server costing me \$500/year ([1](#) (top spot on Hacker News), [2](#), [3](#)), deploying a BOSH Director With SSL certificates issued by a commercial CA ([1](#)), how to customize a BOSH stemcell ([1](#)), updating a BOSH Release ([1](#)), Concourse CI has badges ([1](#)), Concourse CI without a load balancer ([1](#)), the world's smallest Concourse CI server ([1](#)), setting up and benchmarking the iSCSI performance of a ZFS fileserv ([1](#), [2](#)), installing Cloud Foundry in a home lab ([1](#), [2](#), [3](#), and [4](#)), setting up a DNS, NTP and nginx server in the cloud ([1](#), [2](#), [3](#), [4](#), and [5](#)), configuring and troubleshooting an IPv6 firewall ([1](#), [2](#), [3](#), and [4](#)), using Ruby Expect to control network appliances ([1](#)), using DNS-SD to make printing easier ([1](#)), locking down an ethernet network ([1](#)), and many more. I've written blog posts as part of my job as well, and do not include those posts in the above list.

I swim in the San Francisco Bay and play rugby.

Education

[Stevens Institute of Technology](#), June 1989

Master of Science and Engineering, Major in Telecommunications Engineering

[University of Pennsylvania](#), August 1986

Bachelor of Science and Engineering, Major in Computer Science Engineering

Ongoing, non-degree-related education:

- [Front-End Web Development with React](#) (2019)
- Build a Modern Computer from First Principles: Nand to Tetris: Parts [1](#) (2015) and [2](#) (2018)
- Programming Mobile Applications for Android Handheld Systems: Part [1](#) (2015)
- [Web Application Architectures](#) (Ruby on Rails) (2014)
- An Introduction to Interactive Programming in Python: Parts [1](#) and [2](#) (2013)

Honors

National Merit Scholar