James Matthew Brown <r@rglzr.net>

(310) 803-9690

OBJECTIVES

To build and maintain highly-available, secure, and well-designed systems at scale, probably on the Internet. To use effective tools without getting caught up in the latest HN hype. To help other coworkers, both engineers and non-engineers, more effectively use technology to achieve their ends. To not repeat the mistakes of the past. To boldly split infinitives as necessary.

TECHNICAL SKILLS AND TOOLS

Languages[1]: Python, Rust, C, POSIX/Bourne Shell, sed[2], C++, Ruby, Rakudo Perl6, Hy, Haskell, (S/Oca)ML, C#, Perl5, JavaScript, Java, PHP

Markup: (X)HTML, LaTeX/TeX, Markdown, CSS

Parser-Generator Families: LR(k), LALR(k), PEG (but only grudgingly)

Operating Systems: Linux (mostly Debian/Ubuntu and Red Hat/CentOS, but I did a lot with Gentoo in my youth), Mac OS X, Cisco IOS, JunOS, Vyatta / VyOS, some experience with Solaris and FreeBSD

Databases: MySQL 5.0 – 8.0, Galera Cluster for MySQL, PostgreSQL 9, HPE Vertica, Redis, Tokyo Tyrant/Tokyo Cabinet, some Riak, RRD/Whisper

Configuration management: Primarily Puppet 2.x & 3.x, some Chef, some Ansible, several home-grown solutions, various Docker things[3]

Software: apache, lighttpd, nginx, BIND, postfix, Courier, SpamAssassin, OpenLDAP, NFS, Samba, rsync, OpenSSH, OpenVPN, bash, zsh, vi(m), portage, apt/dpkg, rpm, firehol, iptables, haproxy, git, subversion, make, gcc, gdb, libtool, autotools, clusto, uwsgi, cargo

LINKS

https://github.com/Roguelazer
http://www.roguelazer.com

WORK EXPERIENCE

Systems Engineer, EasyPost, San Francisco, CA   9/2015 – present

- Administrating, designing, and purchasing new production systems.
- Designed and rolled out heterogeneous multi-datacenterization using AWS, IBM Soft-Layer, and rented space in physical datacenters
- Maintaining puppet configuration for all environments; ported from Puppet 3.2 to Puppet 3.8 (4.x in progress); ported from in-line host config to Hiera + ENC integrated with service deployment
- Selecting, configuring, deploying, and DBAing for both OLTP and OLAP database systems using MySQL and HPE Vertica; migrating MySQL systems to use Galera / Percona XtraDB Cluster
- Architecting and deploying log management and analysis system based on Apache Kafka, ElasticSearch, Secor, and Elastic MapReduce, as well as a number of custom components
- Managing office IT, including contract negotiations, purchasing, developing security and provision procedures for employee systems and networks, actually provisioning all new employee laptops, occasionally putting together desks and chairs, and cleaning the machine room. Designed office network built on Cisco Meraki + VyOS. Fixed the printer when it broke.
- Designing and building development systems, including fully-automated per-engineer development environment provisioning using Packer and Vagrant (with backends for both VirtualBox and AWS). Built full staging environment in AWS VPC, integrated with development environments. Designed custom CI framework using Jenkins and Docker. Rolled out Phabricator, integrated into custom CI environment, including clustering/HA functionality.
- Participating in 24-hour on-call rotations with 0 - 2 other engineers

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[1] ordered by a linear combination of preference and knowledge
[2] yes, it's Turing-complete
[3] I really don't like Docker

- Built automated monitoring stack on top of Carbon and PagerDuty
- Designed and implemented security incident response policies
- Performing last-tier customer support for unusual network, system, and/or security issues
- Training co-workers in new tools and techniques

Security Engineer, Uber Technologies, Inc, San Francisco, CA   1/2015 – 7/2015
- Worked to improve security and user privacy in a challenging environment with hundreds of code releases per day, few design or code review policies, and extremely aggressive schedules
- Implemented two-factor-authentication for production environment, including implementing custom PAM modules
- Built static analyzers to detect SQL injection vulnerabilities and potential credential misuse in Python code
- Co-developed internal risk assessment and threat modeling framework
- Was a major contributor in designing and launching a subset of functionality to run in an untrusted datacenter in a potentially-hostile country

Infrastructure Engineer, Uber Technologies, Inc, San Francisco, CA   4/2013 – 1/2015
- Developed code, operated systems, and architected functionality to scale Uber's product from hundreds of thousands of users to tens of millions, from tens of engineers to hundreds of engineers, and from hundreds of servers to tens of thousands of servers
- Designed and implemented entirely new OpenID-based single-sign-on nginx middleware
- Rearchitected Nagios config generation (using Clusto) and PagerDuty integration, scaling to over 100,000 services tracked per Nagios server
- Led security efforts, including audits of existing code and designs of new secure systems both internally and with external partners
- Designed and implemented new code deployment and cluster management systems
- Participated and trained others in 24-hour on-call rotation
- Contributed to administration of large PostgreSQL cluster, including debugging and optimization of PostgreSQL internals
- Designed and administrated multiple MySQL / Percona SQL Server clusters
- Contributed to configuration and administration of many other data stores, including Redis, Riak, and HP Vertica
- Designed and implemented new frontend for Graphite using AngularJS
- Designed and implemented internal web-based password manager with inclusion/exclusion ACL system and extensive auditing features
- Ran employee training on infrastructural issues

Systems Engineer, Yelp, Inc., San Francisco, CA   6/2010 – 4/2013
- Acted as both a developer and a systems administrator to keep multi-million-user website running efficiently across hundreds of machines, more than 200 developers, and hundreds of thousands of lines of code
- Debugged and resolved numerous site issues at all levels, from Ethernet frames to stack frames to iframes
- Was a key player in multi-datacenter scale-out, working to build out cages on both sides of the country as well as managing a hosted virtual datacenter through SoftLayer[4]
- Developed staging and deployment procedures and tools
- Administrated developer tools (trac, git, reviewboard, etc)
- Wrote high-performance utilities in C to optimize critical functionality

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[4]Now IBM BlueMix

- Maintained internal Debian/Ubuntu-derived distribution, including both fresh package writing and backports for hundreds of libraries and applications; also, personally planned and executed upgrade of core distribution from Ubuntu 8.04 to Ubuntu 10.04 across the entire network with no downtime
- Participated in a regular 24-hour call rotation and other operations duties
- Largely redesigned internal Nagios setup (over 20000 tracked services) for consistency and scalability
- Worked closely with DBAs on operational maintenance of both MySQL and non-relational databases; also assisted in query debugging and optimization
- Worked closely with the network operations team, including designing new production networks, administrating Cisco, Juniper, and Force10 networking equipment, and both debugging internal and external networking issues
- Interacted with third-party vendors and coordinated millions of dollars of purchases
- Built, experimented with, and debugged "cloud" services across multiple providers
- Led first-response teams for several security incidents and designed new security tools and policies

System Administration Staff, Harvey Mudd College, Claremont, CA   12/2007 – 5/2010
- Led a team of student administrators to manage 80 Apple workstations, 5 Linux servers, 2 Apple servers, 1 Windows 2003 Server, and miscellaneous other machines
- Aided faculty and students in using Computer Science Department resources
- Maintained internal and user-facing documentation and support web-apps
- Wrote scripts and programs to aid in maintenance and eliminate repetitive tasks

Corporate Operations Engineering Intern, Google, Inc., New York, NY 6/2009 – 8/2009
- Performed user support in a mixed-platform environment
- Led user training on both Google-specific and general computing topics
- Designed and implemented a web application running on Google App Engine to integrate multiple data sources for analysis of corporate security logs

Systems Manager, FRED-TV, Fall River, MA   12/2005 – 8/2006
- Managed a network of approximately 30 workstations used for video editing
- Implemented OpenLDAP authentication, network-shared home directories, and Kerberos using Mac OS X Server

Freelance Computer Repair Guy, Various, Fall River, MA   1999 – 2006
- Repaired desktop computers and provided consulting services to a variety of small businesses in the Greater Fall River area
- Removed malware, performed upgrades, built networks, and fixed folks' problems for ¼ of what the competition charged

EDUCATION

Bachelor of Science, Computer Science; *Humanities Concentration,* Music
Harvey Mudd College, Claremont, CA, May 2010
GPA: 3.698 overall (graduated with distinction), 3.853 in-major

Coursework: Data Structures • Software Development • Linear Algebra • Programming Languages • Digital Engineering • Computer Systems • Compiler Design • Advanced Computer Architecture • Algorithms • Computer Networks • Operating Systems • File Systems • Engineering Economics

RESEARCH EXPERIENCE

Clay-Wolkin Fellow, Harvey Mudd College, Claremont, CA   1/2007 – 5/2010
- Exclusive fellowship for research in digital engineering topics with Professor David Money Harris, sponsored by Sun Microsystems and Intel
- Researched novel methods of digital circuit design, including multiple-output static logic, sub-threshold circuit optimization, and multiplier optimization

- Designed a suite of tools to visualize Verilog files and integrate timing data when optimizing circuit layouts
- Maintained servers and associated CAD software for Engineering Department

Summer Research Assistant, Harvey Mudd College, Claremont, CA   5/2008 – 8/2008
- Worked on a team of four to explore innovative diagram recognition techniques with Professor Christine Alvarado
- Implemented cutting-edge vision-based recognition algorithms in a 65,000-line C# 2.0 codebase

VOLUNTEER WORK	**IT Volunteer**, Legal Services for Prisoners with Children, SF, CA	2017 – present
	Community Dinner Volunteer, Old First Presbyterian Church, SF, CA	2016 – present
PERSONAL ACTIVITIES	House Rabbit Aficionado	8/2014 – present
	Member, Harvey Mudd College Computing Committee	5/2009 – 5/2010
	Violinist, Claremont Concert Orchestra	9/2006 – 5/2010
	Violinist, Durfee High School and regional orchestras	9/2002 – 6/2006
	Student Member, Fall River Public Library Board of Trustees	6/2004 – 6/2006