

Bert JW Regeer

Skills

- Languages Python (2.x and 3.x), C++, C
- Databases PostgreSQL, MongoDB, Redis, MySQL (MariaDB), and SQLite 3
- Networking Architected and built various highly available applications using industry standard platforms and processes. Proficient in designing and developing topologies using software defined networking and advanced routing protocols. IPv4/IPv6, DNS, HTTP, and routing/switching.
- Security Cryptography primitives and fundamentals, including understanding and mitigating common pitfalls. Proficient building secure software, and addressing various security issues. Architecting secure network systems with defense in depth, understanding data flow, compartmentalising of data and building access policies.
- Cloud Extensive experience using cloud providers, including AWS, GCP, Digital Ocean, and Linode
- OS FreeBSD, Mac OS X, Linux (Ubuntu, CentOS, Red Hat Enterprise Linux)

Experience

- 2016–current **Site Reliability Engineering Team Lead**, *Crunch.io (YouGov)*, San Francisco, CA (remote).
- Led a six person team tasked with delivering a more stable and performant backend while increasing security and improving processes, as well as working on increasing developer productivity
 - Extensive project planning/management to plan for the quarter/year ahead
 - Reported directly to the C-suite related to on-going reliability issues, and stability concerns
 - Led 1 on 1's with my team to better understand where they wanted to go in their careers, and what concerns they had about the company
 - Heavily involved in hiring and finding new people to join the Crunch team
 - Worked extensively with the support team to understand customer complaints
 - Helped prioritize and task firefighting responsibilities and was part of the front lines helping fix the service
 - System administration with Ansible to deploy to AWS: EC2/Route53/S3
 - Primary security expert at Crunch helping build/improve the company's security posture, including applying security patches to Linux machines, and building security into the development lifecycle
 - Built a CI pipeline for Jenkins using docker that does per-branch builds increasing developer productivity by reducing contention on a single pipeline where tickets were merged together
 - Used AWS EC2 spot instances with auto-scaling to allow Jenkins to spin up/down executors on demand reducing cost of development infrastructure by not paying for idle executors and increasing throughput for builds completed during peak hours due to parallelization of builds
 - Documented and taught the team at Crunch about corporate security, implemented 2FA and SSO proxies to secure internal resources
 - Actively contributed to the source code, including work to migrate from Python 2 to Python 3
 - Open sourced software for securing against SSRF, and to help run Selenium tests, as well as worked with upstream maintainers of open source used at Crunch
- 2018–current **Pyramid Consultant**, *American Public Power Association*, Arlington, VA (remote).
- Development of a custom user management web application for licensing and authorization using the Pyramid web framework for multiple oauth2 enabled services
 - Database migrations using Alembic and SQLAlchemy deployed on PostgreSQL
 - Introduced SaltStack and automation to deploying of VMs for running docker-compose based deployments
 - Building automation for deployment of new containers based on git tags using Google Cloud Build
 - Migrating from Digital Ocean to Google Cloud Platform with docker, ultimately moving to kubernetes

2015–2016 **System Architect**, *Centurylink, Inc*, Littleton, CO.

- Worked with a team to architect the next generation automation platform for video delivery
 - Led effort working with vendors to build appropriate hardware configurations for the new IaaS platform
 - Built requirements document with Canonical for the OpenStack/MaaS/JuJu platform
 - Documented network, physical layouts, and software requirements for next generation platform
 - Closely worked with other teams within the organisation to provide solutions that match their requirements (Platform as a Service, virtual machines, containers and others)
- Configured Juniper QFX/Arista switches to configure networks for Ceph/OpenStack
- Extensively stress tested and verified Ceph cluster storage would meet project requirements
- Automated installation of new server nodes using Metal as a Service
- Leveraged configuration management using SaltStack with salt-ssh to ease deployments of various projects
- Manage and deployed Jira, Confluence and Gitlab for internal developer tools

2014–2015 **Cross Domain Engineer**, *Charter Communications*, Englewood, CO.

- Deployed, installed, and configured OpenStack using Red Hat Enterprise Linux 7
- Developed custom applications using OpenStack API's using Python and Pyramid
- Wide range of platforms/technologies for IaaS: Linux KVM (OpenStack)/VMWare vCenter, Cisco UCS, NetApp, Cisco Nexus 5K/7K, A10 Networks/F5 load balancing
- Leveraged Python for network automation/software defined networking for Cisco switches/routers
- Collaborated with the network team to deploy configurations for Cisco NX-OS, IOS, IOS XR
- Integral team member provided assistance to the deployment, architecture and operation of the new CTEC lab facility

2010–2014 **Sr. Software Engineer**, *Absio Corporation*, Littleton, CO.

- Developed scalable, fault tolerant, and high availability systems using C++, Python, Postgres and ZeroMQ
- Architected software for deployment in a high security environment with separation of responsibilities
- Led small team and worked with other teams to implement features and requirements
- Drafted, designed, and helped implement all cryptographic decisions for Absio Message
- Successfully deployed to production for Absio's commercial beta launch
- Built various websites using Pyramid, SQLAlchemy, and Bourbon (SASS)

Volunteer

2011–current **Goon: Parties Lead**, *DEF CON*, Las Vegas, NV.

- Coordinated with volunteers to run successful nighttime events at DEF CON
- On-site: lead a small team of volunteers tasked with making sure the party planners have the resources necessary
- Work with hotel event management to make sure events run smoothly

Interests & Projects

open source Core maintainer for the Pylons Project, specifically: WebOb a very popular request/response library for Python, Waitress a pure Python HTTP server for WSGI applications, and Pyramid a Python web framework. I also help manage pull requests, bug fixes and support other projects under the Pylons Project umbrella. I have released various other projects under open source licenses. Additional open source personal projects with on-going code commits available on Github/[bertjwregeer](https://github.com/bertjwregeer).

funcptr Technical notebook named funcptr (short for function pointer) at <http://funcptr.net/>. Includes documentation for solutions to problems I have encountered, with the hope of helping others solve similar problems more easily.

Voting member of the Python Software Foundation

Education

2006–2009 **Software Engineering**, *University of Advancing Technology*, Tempe, AZ.

Bachelor of Science: Software Engineering

Major: Computer Programming