

Patrick King
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Location: Portland, OR

EXPERIENCE

• New Relic

Portland, OR

Senior Software Engineer - Database Engineering

May 2018 - Present

- **Databases in Containers:** Built and maintained software written in Golang that allowed for us to quickly deploy 2000+ databases in Docker containers across all of our environments.
- **Bare-metal server Deployments:** Codified our bare-metal server deployments in Ignition and reduced deployment time by 90%.
- **Encryption at Rest:** Integrated dm-crypt into our database deployment pipeline so that all database volumes were automatically encrypted.
- **FedRAMP Certification:** Worked with our Security team bring our database deployments into FedRAMP Moderate compliance.
- **MySQL Sharding:** Deployed Vitess to transparently shard our largest MySQL database.
- **Other Achievements:**
 - * Deploy a fully automated database backup and restore pipeline with Jenkins.
 - * Introduced and productionized clustered Redis for single-source-of-truth data.
 - * Used the VividCortex API to create a whitelist and blacklist application to manage which databases we monitored.
 - * Automated alert creation using dimensions found in Telegraf data.

Technical Product Manager - Database Engineering

Nov 2018 - Present

- **Migration to the Cloud:** Engaged with management and architecture teams to plan out the Database Team's role in New Relic's cloud migration.
- **Team Quarterly Planning:** Worked with stakeholders and multiple management levels to plan and prioritize the Database Team's quarterly schedule.

• Yelp

San Francisco, CA

Data Reliability Engineer

May 2016 - December 2017

- **MySQL Database Server Auto Scaling:** Built software that intelligently scaled our MySQL clusters based on CPU usage and average query time leveraging in house tooling as well as custom automation written in Python.
- **PostgreSQL Optimization:** Responsible for optimizing multiple PostgreSQL database clusters for better performance, which reduced the number AWS instances resulting in a substantial cost savings.
- **Operational Maintainability:** Migrated all of the DRE team's SignalFX charts and detectors from manually created dashboards to use SignalForm to support our "Alerts as Code" initiative.
- **MySQL Specific AMI:** Reduced production database deployment time by 75% by rewriting the bootstrapping process using Packer to build custom baked MySQL images.
- **Other Achievements:**
 - * Upgraded MySQL across all environments to the most recent major version.
 - * Wrote a tool that would compare MySQL binary logs between two version of MySQL.
 - * Leveraged data contained in Splunk to write a predictive disk space alert for our MySQL servers.
 - * Deployed VividCortex as a database monitoring solution, and taught courses on how to use its data.

- **Pandora Media, Inc**

Database Administrator

Oakland, CA

May 2013 - April 2016

- **PostgreSQL Automated Backup Testing:** Created an automation pipeline in Python to backup our 200+ production PostgreSQL databases, restore them to verify backup was valid, and attach them to the appropriate replication stream to make sure we could use the backup in a DR scenario.
- **Automatic Setup of PostgreSQL Replica Servers:** Implemented service discovery for database bootstrapping and replication, saving the DBA team hundreds of hours of manual configuration.
- **PostgreSQL Performance Analysis Tooling:** Developed a pluggable framework to gather time-series metrics, and then used that to gather internal PostgreSQL metrics for performance analytics.
- **Other Achievements:**
 - * Major upgrade of PostgreSQL across our entire environment.
 - * Hadoop and Hive administration.

- **Rentrak**

Database Administrator

Portland, OR

August 2011 - May 2013

- Decreased PostgreSQL backup time by a factor of ten.
- Implemented read-only database clones by leveraging NetApp snapshots.
- Migration from physical PostgreSQL servers to HA VMware/NetApp environment.
- Developed and delivered internal auditing tools that decreased the DBA workload.

- **Elemental Technologies**

Software Test Engineer (Contract)

Portland, OR

January 2011 - June 2011

- Worked on testing Elemental's two main products for compliance to many different video standards. Daily tasks included encoding and watching different video files, as well as watching live video. I was also responsible for the performance testing on Elemental's major releases.

CONFERENCE PRESENTATIONS

- **App Sharded Redis w/Sentinel vs Redis Cluster - RedisConf19:** Presented with my coworker Cory Johannsen about our journey of scaling Redis and our use of many Redis sharding technologies.
- **PostgreSQL to MySQL: A DBA Perspective - Percona Live 2017:** My retrospective after one year of transitioning from a PostgreSQL DBA to a MySQL DBA.
- **Using pg_repack to Bulk Delete Data - Postgres Vision 2016:** A 15 minute presentation about using pg_repack to bulk delete data from highly contested tables.

TECHNICAL SKILLS

- **Technologies:** PostgreSQL, MySQL, Redis, Vitess, Docker, Kubernetes, Puppet, AWS, Terraform, Ignition, Vault, New Relic, SignalFX, Splunk, VividCortex
- **Languages:** Golang, Python, SQL, Bash