# Percona, Lookout and AWS

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# Percona

- Founded in August 2006 by Peter Zaitsev and Vadim Tkachenko
- Delivering enterprise-class support, consulting, managed services
- Expertise in MySQL®, Percona Server®, MariaDB®, MongoDB Altas, Amazon AWS (EC2, RDS, Aurora and S3), Google Cloud SQL, Google Cloud SQL Services, Microsoft Azure and other platforms
- Global experts available 24x7x365
- Over 3,000 clients worldwide

# Lookout

- Founded in 2007 by John Hering, Kevin Mahaffey, and James Burgess
- Providing security for mobile devices for large enterprises, government agencies, and tens of millions of individuals worldwide.
- Forbes 2017 Cloud 100 list: top 100 companies leading the cloud technology revolution worldwide

# Today's Panel

- Dov Endress
  - DBA Remote Support Engineer
  - Percona team since October 2015
- Michael Fortson
  - Director of Engineering

# Lookout Requirements

# Lookout Requirements

- Lookout approached Percona with the following needs:
  - Fully manage their Aurora environment
  - Audit their database infrastructure
  - Enhance their current monitoring
  - Right-sizing their consumption of AWS resources
  - Do so while keeping system stable and customers happy

# Percona's Solution: Percona Managed Services for AWS

# Percona Managed Services for AWS

- Performance & Health Audits
- Architecture, Query Optimization
- 24x7x365 hands-on management & alert response
- Percona Backup, H/A, & Failover services
- Expert engineering to compliment AWS automation

# The Relationship Begins

# Monitoring & Management

- Nagios
  - Aurora
- PMM
  - QAN & Grafana

# Performance Health Audit

- Full Stack Analysis
  - Database configuration
  - Query Review
  - Schema Review

# Original Architecture

- Sharded system
- 38 Master/Slave pairs
  - Enabling AWS for HA/Automatic fail-over
- 1 Distributor node (single pt of failure)
- Aurora: db.r3.8xlarge

# Aurora: Right Sizing

- Eliminated 35 READ only slaves
- Benefits:
  - Total monthly savings: $37k - $117k
- Risks:
  - Increase fail-over time
  - Increased load on remaining servers

# Aurora: Right Sizing

- Reduced the number of Masters from 35 to 10
- Benefits:
  - Total monthly savings: $26k - $84k
- Risks:
  - Increased load on the remaining masters

# Aurora: Right Sizing

- Reduced instance size
  - db.r3.8xlarge ->db.r3.4xlarge
- Benefits:
  - Total monthly savings: $5k - $17k

# Benefits

- Reduced costs
- Equal or better performance
- Better alignment with business needs
- 24x7x365 Expert MySQL support

# Meanwhile…

# Side Project: Database Migration

- Objective: Migrate from RDS to Aurora
- Business case:
  - UTF8MB4 and latin1 collation mismatch
  - Architecture homogeny
- Challenges:
  - Zero replication downtime
  - Primary key datatype mismatch

# Questions?

# Database Performance Matters