



PERCONA  
Performance Consulting Experts

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# Beyond MySQL 5.1

## What is happening in MySQL Space

Feb 16, 2011

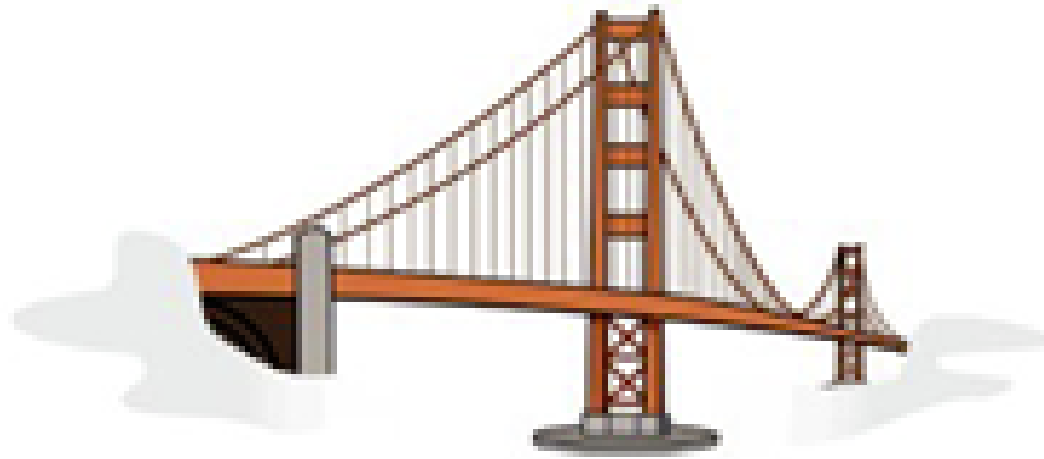
Percona Live

San Francisco, CA

by Peter Zaitsev, Percona Inc

Welcome !

# Percona Live



**Join us Feb 16th in San Francisco!**

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Percona Live so wonderfully pleasant  
event !

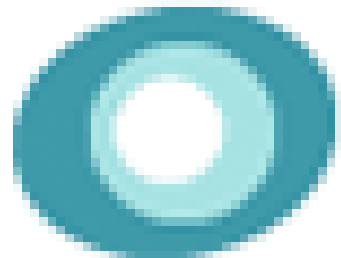
# Clustrix

- Makers of MySQL Protocol Compatible Clustered shared nothing Appliance
- Evening Open Bar running through Pizza time and Ignite



# New Relic

- Monitor Troubleshoot and Tune your Applications
- Provided us Lunches so we can spend more time socializing during lunch break



# New Relic.

# Facebook

- Not particularly known Social Network company
- Provided cool prize for Ignite Event

The image shows the Facebook logo, which consists of the word "facebook" in a white, lowercase, sans-serif font. The text is centered within a solid blue rectangular background.

# Fusion IO

- High Performance PCI Express Flash Storage
- Gourmet Pizza for Dinner



FUSION-io

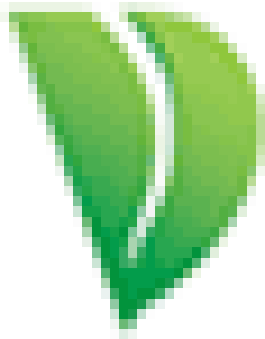
# Continuent

- Tungsten Replicator and Tungsten Enterprise
  - Replication solution for MySQL and PostgreSQL
- Provided us with Afternoon Break

continuent  
Open. Always Available.

# Virident

- Modular PCIe Flash storage solution
- Provided Morning Coffe



VIRIDENT

# More Great Sponsors

- Making the conference Success



**RethinkDB.**

# Beyond MySQL 5.1

- MySQL 5.1 went GA Nov 27, 2008
- Last version released with Monty and Marten onboard.
- After MySQL 5.1 there is a New Epoche in MySQL landscape

# MySQL 5.5

- GA on December 15, 2010
  - About 2 years after MySQL 5.1
  - MySQL 5.0 to MySQL 5.1 took about 3 years
- 5.5.8 is first stable; it was 5.1.30 and 5.0.15
- Mainly Cleanup and Performance Focused
  - PERFORMANCE\_SCHEMA biggest user facing change
- Has improved Plugin Interface
  - Even more code can be written as plugins

# MariaDB

- Delivered 2 stable releases MariaDB 5.1 and 5.2
- Getting Increased user adoption
- Broader option of MySQL Storage engines
  - Aria, PBXT, OQGRAPH, SphinxSE
- Segmented KeyCache for MyISAM tables
- Virtual Columns
- MariaDB 5.3 on the way
  - Focused on improvements of Query Optimizer

# Drizzle

- Project of Reinventing MySQL
  - Removing all stuff which is done “wrong” and adding it done right.
- Currently in Beta with binaries, RPMs available
- RC to be released soon
- More than 100 developers; Core developers in 5 companies
- Active development with more than 1000 commits in february today

# Percona Server & XtraDB

- MySQL Codebase based Product focused on
  - Performance, Compatibility, Diagnostics
  - A lot of focus on Flash and in the Cloud
- Percona Server 5.5 Beta is now available
  - Get benefit both of MySQL 5.5 and Percona Server improvements
- Learn more from the next presentation
- Commercial Support and Maintenance from Percona
  - <http://www.percona.com/support/>

# Community Patches

- Community is still patching !
- The leadership moved to Facebook
  - Following Mark Callaghan
- A lot of patches done by small independent authors fixing their issues
  - Ie MyISAM key contention by Peter from Stardoll
- A lot of things can be written as plugins now
  - Memcache udfs
  - Handler Socket
  - Anders Karsson “sqlstats” Statement Monitor Plugin

# Amazon RDS

- Since early EC2 days MySQL was frequently ran in the cloud
- Amazon RDS simplifies running MySQL in the cloud
  - Replication, Availability, Patching, Monitoring
- Familiar API based management

# Making MySQL Even Faster

- Schooner MySQL
  - Focused on Multi Core Scalability and Flash/SSD
- TokuDB
  - Storage Engine with very fast insert speed and compress
- ScaleDB
  - Shared Disk Clustered Storage Engine (Beta)
- Clustrix
  - MySQL Protocol Compatible Shared Nothing Cluster
  - Unlike others is NOT based on MySQL Code

# MySQL and Data Warehouse

- Column-Store engines optimized for querying
- More than Storage Engines as have to replace MySQL Optimizer
- InfoBright
  - High Compression, More SQL Features
- InfiniDB by Calpont
  - Multi Core and Multi Server
- Kickfire (until recently)
  - Hardware Accelerated Data Flow Execution
  - Great concept but failed

# Bridging SQL-NoSQL Gap

- Accessing MySQL as NoSQL database gets a new steam
  - HANDLER API in MySQL since early days
  - NDB Cluster always had native API
  - PBXT had Scalable Blog Streaming project
  - HandlerSocket – new Plugin for MySQL
    - Included in Percona Server
- Using MySQL Protocol to talk to NoSQL ?
  - Sphinx Full Text Search engine added support for MySQL protocol

# Xtrabackup

- For years there has been Innodb Hot Backup
  - **Commercial** platform independent hot backup
- Xtrabackup – Open Source alternative implementation of the same concept
  - Command line compatible for basic features
  - Pioneered Incremental backup, streaming, parallel backup
- Estimated tens of thousands of servers protected by Xtrabackup
- Zmanda is working on integrating Xtrabackup in their backup solution for MySQL

# Helper Tools

- You can be 10x more efficient with proper tools
- Great set of **Open Source** tools is now available
- Maatkit
- Open Ark Kit
- Aspersa
- MMM
- These are command line tools for DBAs
  - There are also many great GUI and Web tools available for developers

# Replication

- Come to hear Justin Swanhart talk about MySQL Replication in MySQL 5.5 at 12:20
- Row level replication in MySQL 5.1
- MySQL 5.5 adds Semi-Synchronous replication
- Percona Server has Crash Safe replication for Innodb
- The problem with MySQL Replication being Single Threaded is still There for Built in Replication
  - Continuent with Tungsten Replicator solves this (and others) problems

# Healthy PS community

- Looking for Professional Services around MySQL ?
  - Support, Consulting, Training, Remote DBA, Custom Development
- There are many alternative providers to compliment Oracle offering
  - Percona, Monty Programming, SkySQL, Pythian, BlueGeko, Open Query, 42SQL, FromDual
    - Many smaller shops

Enjoy Percona Live !

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