MySQL Proxy meets: Memcache

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MySQL Enterprise Tools
Hands up

• MySQL 5.1 ?
• MySQL 5.5 ?
Memcache

• Distributed, memory based key-value storage
• Low latency
  – UDP, binary protocol
• Cache
  – TTL
  – Purge if full
Store in MySQL, cache in Memcache

- Normalized data in MySQL
  - Persistent
  - Consistent
- Cache
  - results of complex ops
  - Good cache hit ratio
Keep them in sync
Let MySQL do it

• Triggers on UPDATE, DELETE and INSERT
  – Memcache UDF https://launchpad.net/memcached-udfs

• Synchronous to the query execution
  – Move TRIGGERs to the slave for async
Let MySQL not do it

• Key mapping may be complex
  – Especially in stored procs
  – Memcache key == Primary key ?

• Replication is our friend
MySQL Replication

• Stream of change events
• Statement based
  – Embed memcache key in comment
  – `INSERT INTO tbl VALUES ( 1 ) /*!99999 key = 42 */`
• Row Based Replication since MySQL 5.1
  – Pre/Post images of the changed rows
  – Stripped down table definitions
  – No SQL parsing
Semi-Sync Replication

- MySQL 5.5 + semi-sync plugin
- Master waits for ACK on COMMITs
- Extended binlog network protocol
MySQL Proxy

- Framework to build low-level MySQL tools
- Chassis
- Non-Blocking IO, event-driven, threaded
- MySQL Protocol libraries
- Scripting layer
MySQL Proxy meets: Memcache

• Binlog in, Memcache out
• Based on the replicant plugin
  – Event iterator
  – SBR and RBR (5.1+)
  – Semi Sync
• Libmemcached for memcache communication
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Q&A

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