Agenda

- Welcome
- Meetup News
- The MySQL Sprint
- MySQL in the Cloud
- MySQL and DBaaS in OpenStack
- Q&A
- The Last Pint
The Group is growing!

Total and Active Members

251 !!!!
Meetup News

Welcome to our official sponsors!
(in alphabetical order):

- MariaDB
- Oracle
- Percona
Meetup News

Let’s not forget our friends:

- Canonical
- Harvey & Nash
- Just Eat.com
- ...more?...
Group View

Next Events

February Meetup - tentative dates?
- Tue 10? - Tue 17 (half term)?

Speakers needed!

Ideas: What would you like to see/learn?
The MySQL Sprint!

http://www.maximumtrainingsolutions.com
MySQL in the Cloud

http://www.channelcast.tv
The Cloud Landscape

Control / Governance

Level of Abstraction

Public Clouds

SaaS
Software as a Service

PaaS
Platform as a Service

IaaS
Infrastructure as a Service

Hybrid Clouds

Private Clouds

Flexibility of Purpose
The Cloud Promise

- Agility
- Compatibility
- Elasticity
- Low Maintenance
- Multi-Tenancy

- Reduced Costs
- Reliability
- Security
- System Independence
- Virtualization
The Cloud Promise

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FACT!
The Cloud Is Not [Relational] Database-Friendly!

*Or not yet...*
Challenges for a MySQL DBA in the next 3 years

- Integration with other databases - primarily NoSQL
- Adopt the right technology to make MySQL and the Cloud work together
- Integration with provisioning, administration and monitoring tools
- Increase/provide better security for the database and for the users’ data
- Provide elasticity and reduce TCO
Amazon RDS

- MySQL 5.1 to 5.6
- “Up to 5x standard MySQL”
- Up to 30k IOPS - Standard/Provisioned/SSDs
- Synchronous Replication through AZs
- MySQL Replication
- Backups and Snapshots
Amazon Aurora

- “MySQL 5.6/InnoDB Compatible - through standard MySQL Connectors”
- NO MyISAM
- “Up to 5x standard MySQL”
- Part of RDS (no maintenance)
- Pay monthly (pay per use), no upfront costs
- Preview by invitation only
## Pricing

<table>
<thead>
<tr>
<th>Instance Type</th>
<th>EC2</th>
<th>RDS</th>
<th>RDS Aurora</th>
</tr>
</thead>
<tbody>
<tr>
<td>r3.large - 2vCPU - 15GB mem - Std net</td>
<td>(32GB SSD) $0.175</td>
<td>$0.240</td>
<td>$0.290</td>
</tr>
<tr>
<td>r3.xlarge - 4vCPU - 30.5GB mem - Std net</td>
<td>(80GB SSD) $0.350</td>
<td>$0.475</td>
<td>$0.580</td>
</tr>
<tr>
<td>r3.2xlarge - 8vCPU - 61GB mem - HiS net</td>
<td>(160GB SSD) $0.700</td>
<td>$0.945</td>
<td>$1.160</td>
</tr>
<tr>
<td>r3.4xlarge - 16vCPU - 122GB mem - HiS net</td>
<td>(320GB SSD) $1.400</td>
<td>$1.890</td>
<td>$2.320</td>
</tr>
<tr>
<td>r3.8xlarge - 32vCPU - 244GB mem - 10G net</td>
<td>(640GB SSD) $2.800</td>
<td>$3.780</td>
<td>$4.640</td>
</tr>
</tbody>
</table>

- 1 Active Replica included in Aurora - 1 Std-by Replica included in RDS
- Storage at $0.10/GB/Month for Aurora and EBS (SSDs), $0.125/GN/Month for RDS
- RDS Max 3TB - Aurora Max 64TB
Aurora - More info

- Multi-tenant scale-out
- Use AWS services
  - S3 - Object storage for snapshots, logging & backups
  - Same EC2 instances
  - Use of VPC as for RDS
  - Use of DynamoDB similar integration with Hadoop and MapReduce
  - SWF
  - Route 53
Aurora - More info

- New Log-structured storage system
  - InnoDB only
- Logging to S3
- MySQL 5.6 compatibility
- 6M INS/minute 30M SEL/minute => MySQL 5.6 benchmarks
- 6-way replicas in 3AZs
Aurora - More info

- Disk/AZ failure tolerance and self healing
- Seconds for crash recovery
- Database cache always hot even after a restart
MySQL and DBaaS in OpenStack