

SCO & MySQL: Leveraging the Web

SCO Forum 2006 - *Mobility Everywhere*
Session 136

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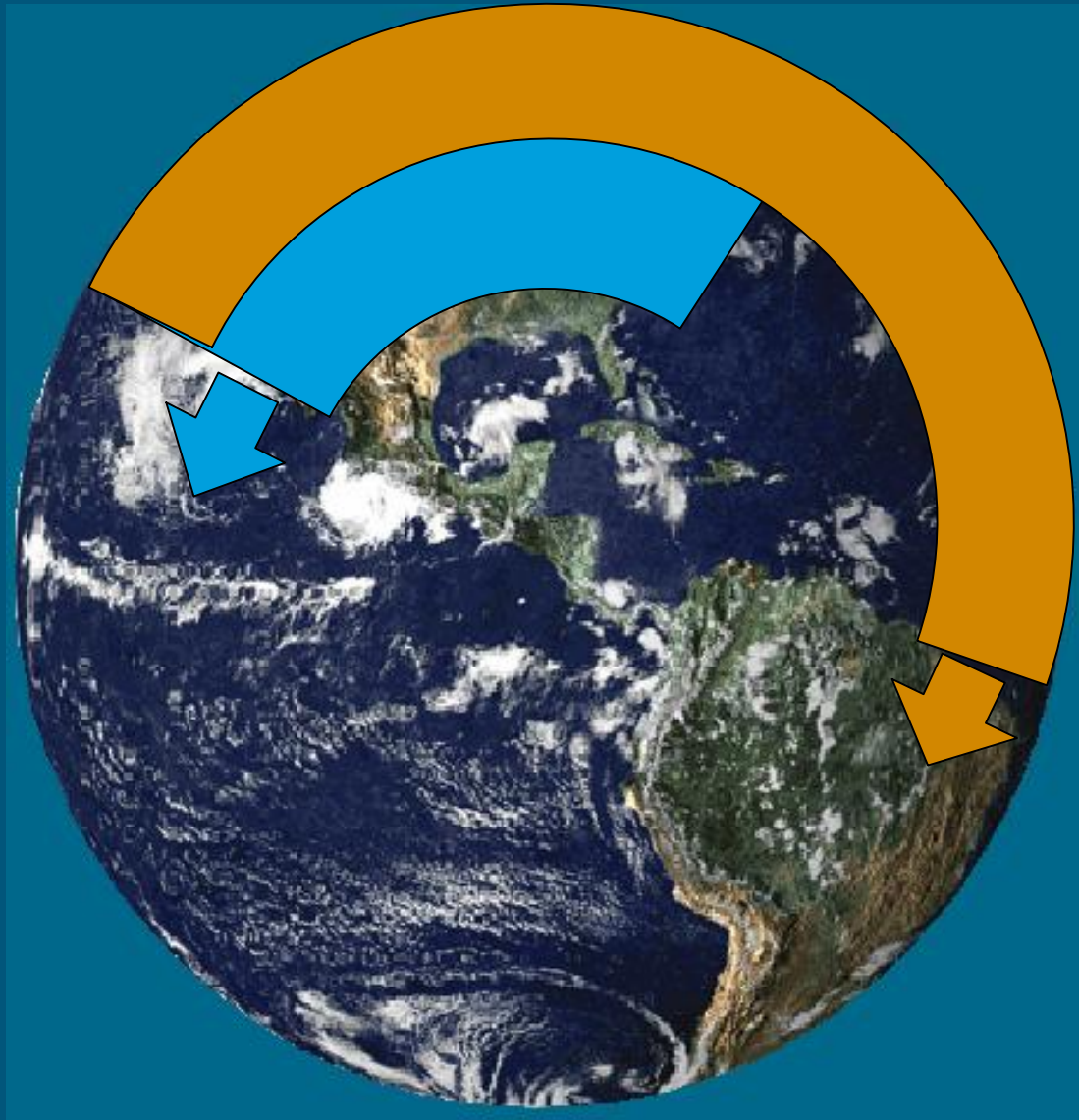


The World



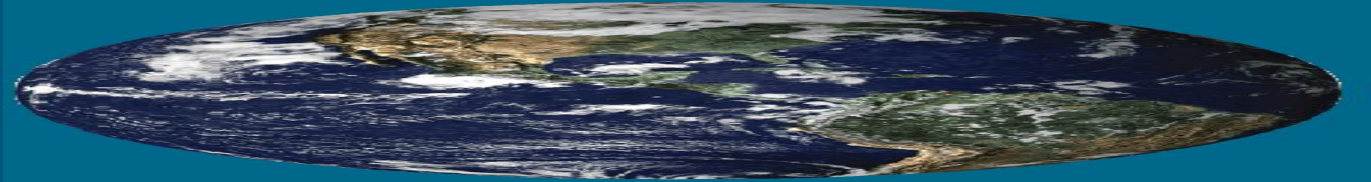
The World is Online

**1 billion
on the
internet**



**Nearly 2
billion
with a
mobile
phone**

(it is flat, too)



The Online World

World population	6.6 billion
Online 15%	1 billion
Developers (in the broad sense) 5%	50 million
Open source developers 60%	30 million
MySQL downloads per year	20 million
Active MySQL installed base	10 million

What happens when the online population doubles?

Online, People ...

Communicate

Connect

Share

Play

Trade

Search & Look Up



Online, People ...

Communicate ...



Connect ...



Share ...



Play ...



Trade ...



Search & Look Up ...



Consumerisation of Business

One billion people online - what are corporations doing?

1. The same as consumers



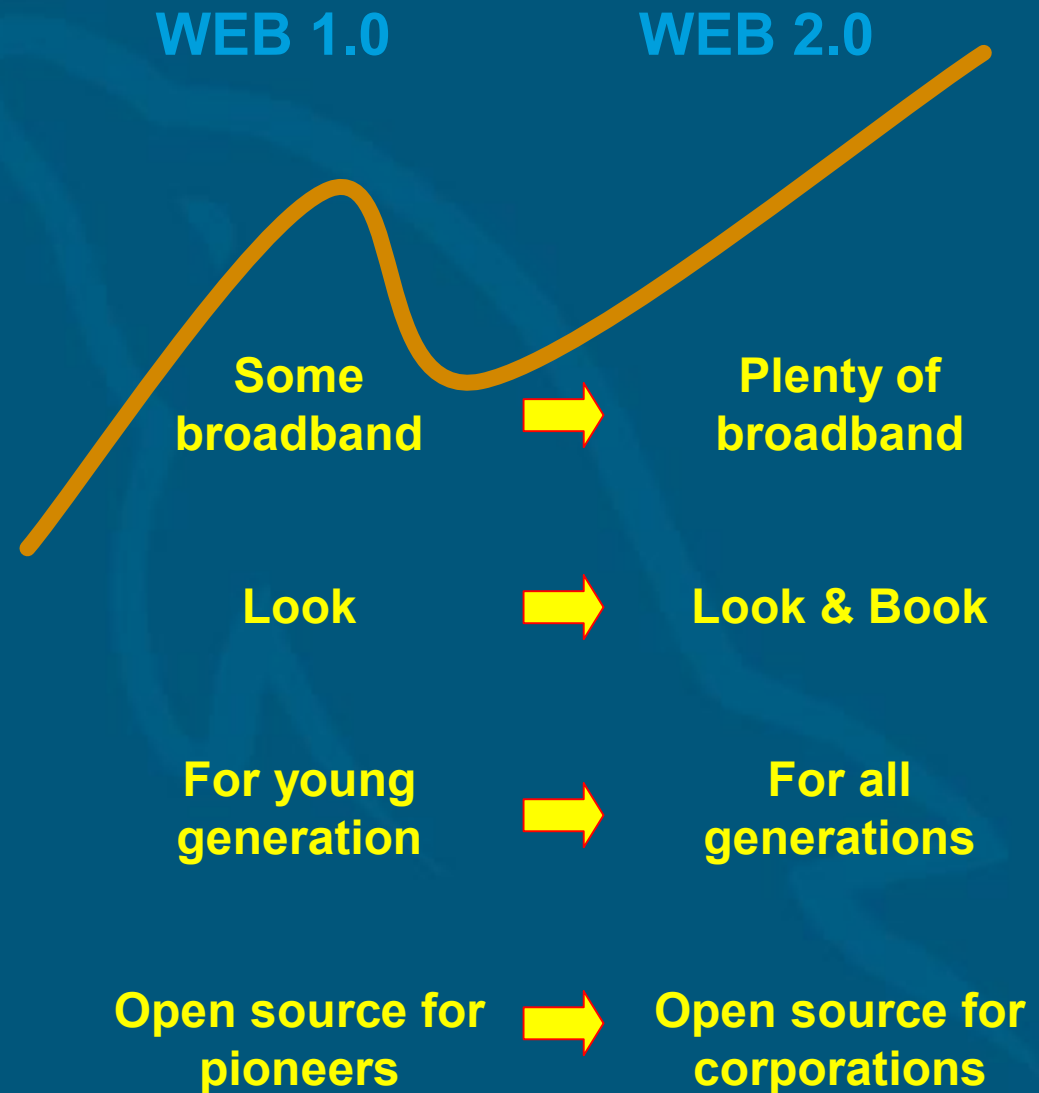
2. Adapting consumer solutions enterprise use

LAMP, blogs, wiki, forums, etc.
for

3. Moving corporate functions online (premise or hosted)



The New Online



Intensity of Online Use

LOOK

LOOK UP

PARTICIPATE

TRANSACT



text, images,
lists, feeds



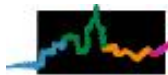
massive
indexed real-
time data



masses of
individual
transactions



complex &
numerous
transactions

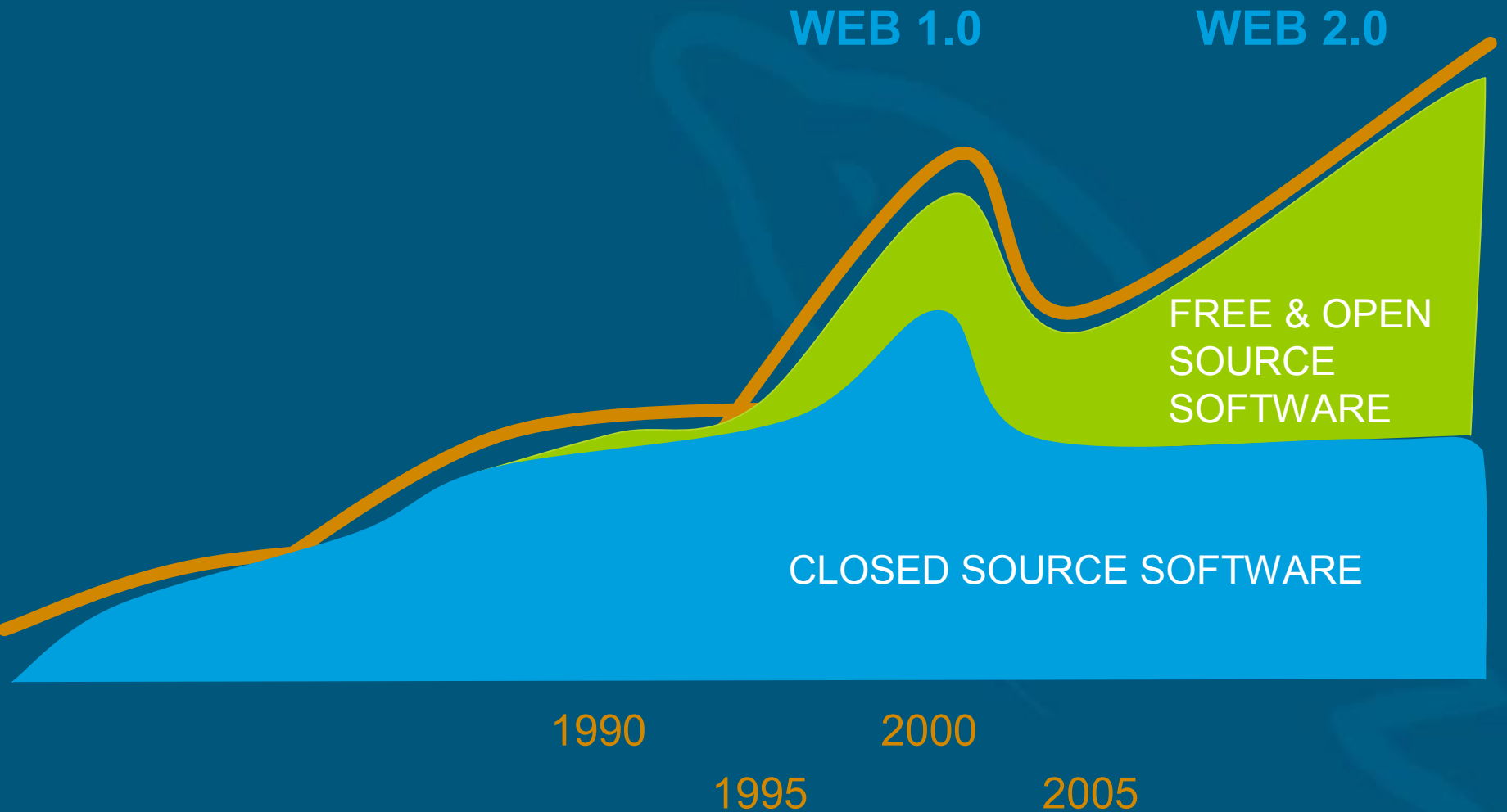


Travelocity®

facebook

RIGHT
NOW
TECHNOLOGIES

Software Industry Evolution



Impacted Markets – Sample MySQL Customers

Web










Travel

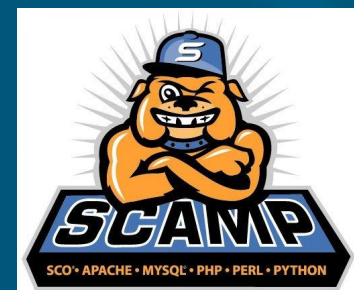
Retail

Telco

OEM / ISV

SCO and MySQL: The Optimal Solution The SCAMP Stack

SCAMP	J2EE
 PHP Perl	 Java
 MySQL	 MySQL
 Apache	 Apache Tomcat JBoss
 OpenServer	 UnixWare
	
<p>OPEN STANDARDS + OPEN SOURCE SCO bundles several open source packages with our UNIX open standard application platforms.</p>	



MySQL Business Model

Free

Community Edition

- Available under GPL
- Software tested by Community + basic MySQL AB testing
- Release early & often cycle (3 to 4 weeks)
- Bleeding edge
- No maintenance SLA
- Not supported
- No ISV certification

**Great for open source
developers & technology
enthusiasts**

Subscription

MySQL Network

- Software fully tested, certified and optimized by MySQL AB
- PRO Edition (Transactions enabled)
- RTU is via the GPL
- Enterprise release cycles (6 to 9 months)
- Annual Subscription
- Update Advisor
- Technical Alert Advisor
- Knowledge Base
- Production Support
- Indemnification

**Great for enterprise
customers**

OEM License

Commercial non-GPL License

- Software fully tested, certified and optimized by MySQL AB
- Sales primarily to OEMs/ISVs
- One time fee for each major version, no product upgrades without separate upgrade fee
- Optional Support Agreement available (break/fix), entitles customers to software updates
- Developer Support via Prof Svcs
- Updates via optional support agreement
- MySQL commercial license does not force GPL inheritance on user as GPL licensed version does

**Great for OEMs, ISVs
& VARs**

Who should use which edition?

Community Edition – for technology enthusiasts, developers, students, or any non-critical deployment that doesn't require enterprise-grade support from SCO & MySQL (Community Edition is endorsed by the open source community and public forums)

Network Subscription – end user deployments that require enterprise grade support from SCO. Targeted for end users under GPL, can be resold by SCO channel partners

Commercial Licenses – for ISVs and OEMs who wish to integrate and/or bundle MySQL with their applications without having to provide their source code openly to the world, as the GPL requires for Community Edition

OEM Support Agreement – grants OEMs the right to ship MySQL fixes and maintenance releases to end customers (take Level 1 support calls)

MySQL Database Server Versions- VSP's

A MySQL release produces different builds that contain specialized sets of functionality

MySQL Pro

- Standard distribution
- Contains all features suitable for use in production
- Basis for MySQL Network certifications

MySQL Classic

- Lightweight Version of MySQL
 - Does not include transactional storage engine
- Only Available to OEMs

Notes

- Source code does **not** vary between builds
- Pro and Classic are subsets of Community
- YOU can re-compile with the features you want

Benefits of Embedding or Bundling

- Focus core engineering resources on application development, adding features and value to application for end-users, faster time to market
- No need to build and maintain an in-house proprietary database
- Proven performance and reliability
- Lower cost to customers by removing the database “tax” for database licenses to support the application they’re providing
- Competitive advantage through removal of db tax and better TCO value for customers
- Shorter sales cycles



+ Your Product = Success

Better “Out-of-the-Box” Experience

- Database is already pre-configured, pre-tuned, pre-optimized for use with the application
- No manageability issues for customer, reduced customer support costs
- Eliminates down time
- Reduces time to “go live” for customer
- Results in faster time to market

“With MySQL, the development of our network appliance took only 15 months from initial design to first customer ship.”

John Moss, CEO
S2 Security Corporation

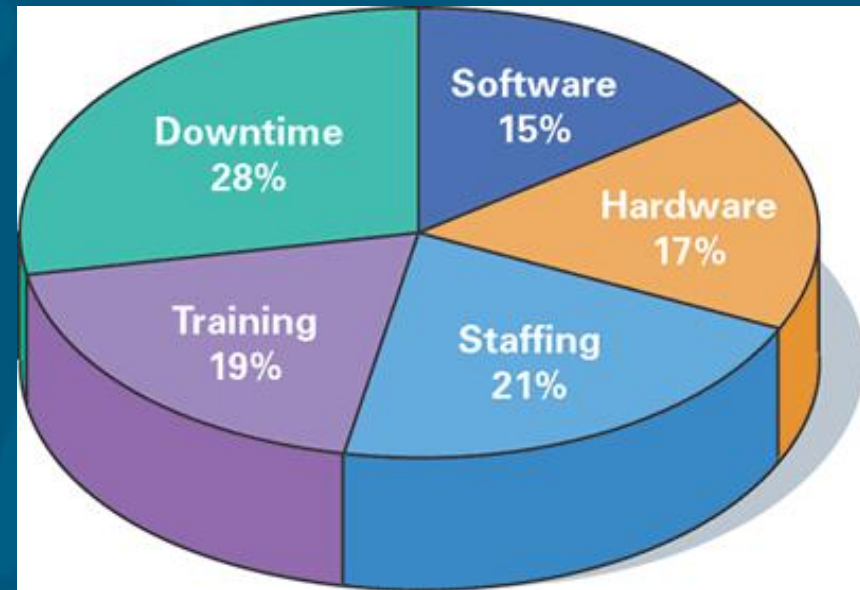
Example OEM Usage

- Network appliances
- Security appliances
- Printing appliances
- Monitoring
- On-line catalogs
- Retail kiosks
- Hosted enterprise applications
- Email systems
- Anti-spam software
- *And more...*



End Customer Usage: MySQL Network Saves Time & Money

- Low-priced support, unlimited CPUs
- Eliminate costly downtime by solving problems before they occur
- Improve system reliability, security
- DBAs can manage more servers
- Developers find answers faster
- Run on less expensive hardware
- Eliminate license costs
- Eliminate maintenance costs
- Total Savings
 - \$250,000 to \$500,000 on projects
 - More than \$10 million in enterprise-wide deployments



TCO Breakdown of Database Software

MySQL Network vs. Oracle Enterprise vs. MS SQL Server Enterprise

Example: 10 server, 2 dual-core CPUs, 3 years support

3 year cost comparison	MySQL Network	Oracle Enterprise	MS SQL Server Enterprise
License	\$0	\$1,600K	\$500K
3-years Maintenance and Support	\$60K	\$1,056K	\$330K
Total	\$60K	\$2,656K	\$830K
Savings with MySQL	N/A	\$2,596K = 98%	\$770K = 93%

Plus more TCO savings due to ease of admin, performance, reliability/uptime, and smaller storage footprint

Network Subscriptions

	MySQLNetwork Basic	MySQLNetwork Silver	MySQLNetwork Gold	MySQLNetwork Platinum
List Price (\$/Server/Year)	USD 595 EUR 495	USD 1,995 EUR 1,595	USD 2,995 EUR 2,395	USD 4,995 EUR 3,995
Software				
MySQL Server	Pro	Pro	Pro	Pro
Certified, Optimized binaries	✓	✓	✓	✓
Maintenance	✓	✓	✓	✓
Advisors				
Technical Alert Advisor	✓	✓	✓	✓
Update Advisor	✓	✓	✓	✓
Security Advisor		✓	✓	✓
Schema Advisor			✓	✓
Query Advisor				✓
Performance Advisor				✓

Network Subscriptions - Continued

	MySQLNetwork Basic	MySQLNetwork Silver	MySQLNetwork Gold	MySQLNetwork Platinum
List Price (\$/Server/Year)	USD 595 EUR 495	USD 1,995 EUR 1,595	USD 2,995 EUR 2,395	USD 4,995 EUR 3,995
Self Help Support				
Knowledge Base	✓	✓	✓	✓
Problem Resolution Support				
Number of Incidents	2	Unlimited	Unlimited	Unlimited
Web Access	✓	✓	✓	✓
Phone Access		8x5 (M-F)	24x7	24x7
Max Response Time	2 biz days	4 hours	2 hours	30 min
Emergency Response Time			30 min	30 min

Example End User Applications

- Back office applications
- Business intelligence
- On-line catalogs & retail
- Point of Sale systems
- Game services
- Directory services
- Transactional systems
- Web enabled applications
- *And more...*





MySQL: A Technical Perspective

SCO – MySQL Business Solution Stacks



Programming Languages



Perl

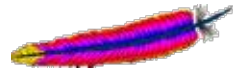
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Database



Web & Application Server



Apache



Tomcat



...



Operating System



Hardware



...

MySQL Scale-Out Comparison

Vertical Scale-Up

- Expensive SMP hardware
- Closed source software
- Platform lock-in
- “Fork Lift” to increase capacity

Horizontal Scale-Out

- Commodity Intel / AMD
- Platform freedom
- Add commodity hardware to increase capacity



What's New?

MySQL 5.0

Performance

- Stored Procedures
- Cluster query push down
- Query optimizations
- Archive Engine
- InnoDB storage improvements

Reliability

- SQL Mode
- Triggers
- Views
- Precision Math
- Distributed Transactions
- Cluster object support

Ease of Use

- Instance Manager
- Information Schema
- Cursors
- Enhanced GUI Tools
- Migration Toolkit

Faster



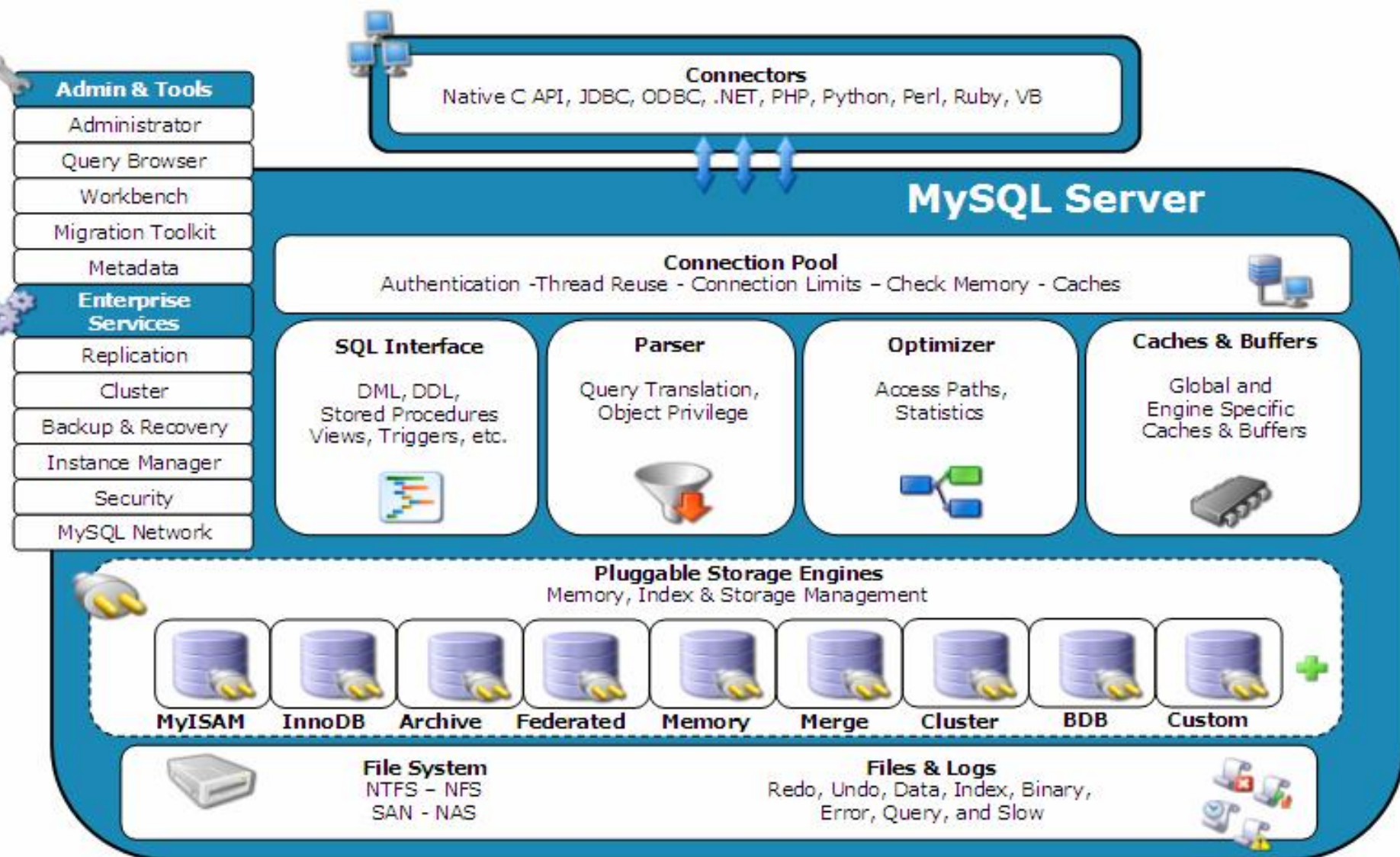
Better



Increased
Manageability



MySQL Architecture



Pluggable Storage Engine Architecture

- MySQL supports several storage engines that act as handlers for different table types.
- Choose, create, or extend a storage engine that best suits your applications unique requirements.
- What is most important to you?
 - Read Intensive
 - OLTP
 - Transactions
 - Performance
 - Scalability
 - Level of Concurrency
 - Indexes Types
 - Storage Utilization
 - High Availability
 - Replication
 - Online Backups
 - Data Warehousing
 - Foreign Keys
 - Small Footprint
 - Row Level Locking
 - Embedded
 - Table Level Locking
 - Clustering

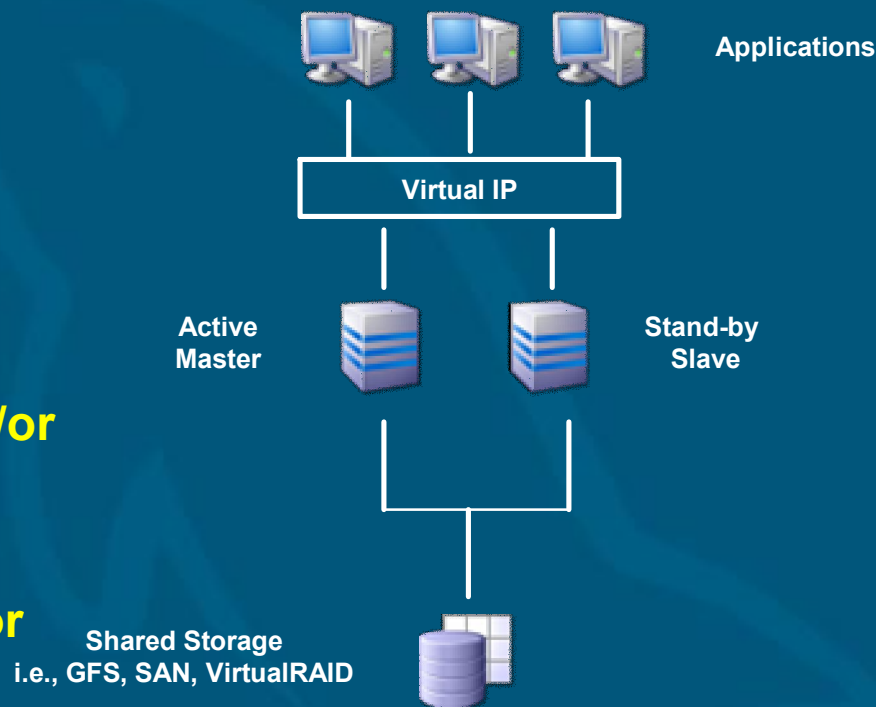
High Availability Solutions: Replication

- Achieve higher availability with a master/slave setup
 - In the event of problems with the master, you can switch to the slave as a backup
- Better response time by splitting the load for processing queries between the master and slave
- SELECT queries may be sent to the slave to reduce the query processing load of the master
- Enabled for all storage engines
- Replicate data from one MySQL server/storage engine combination to a different MySQL Server/storage engine combination
- Perform backups using a slave server and continue to process updates on the master while the backup is being made on the slave
- Extremely simple configuration to enable very robust replication
- Multiple replication topologies supported



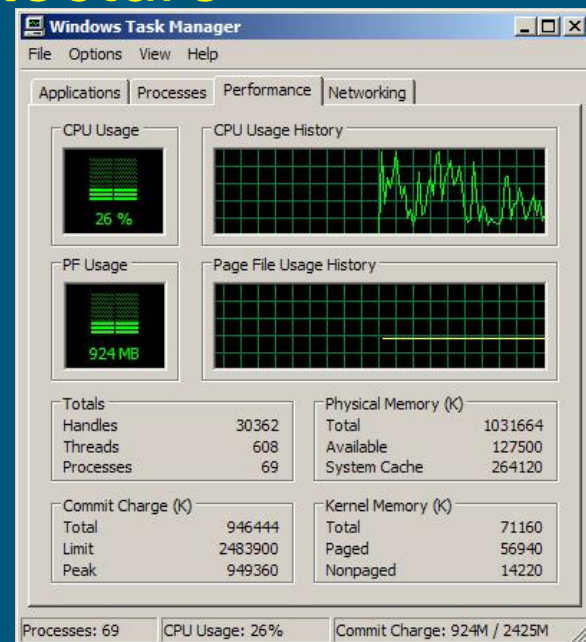
High Availability Solutions: Shared Storage

- **Achieve higher availability with a failover setup**
 - The slave has access to the same data as the master
- **Uses Active/Passive server configuration using virtual IP and/or 3rd party software**
- **May use OS clustering solution for virtual IP and failover**



Small Footprint

- Proprietary databases too large for hardware products or network appliances
- MySQL delivers full functionality in a small footprint
- Unique multiple storage engine architecture optimizes performance & footprint
- Can be directly linked to your application with libmysqld embedded library
- Reduced hardware requirements



Low/Zero Administration Environment

- Lowers management cost for ISV/VAR
- No management time or cost for your customers
- Runs inside your application with the **libmysqld** embedded server library

“When we developed retail kiosks for Suzuki, we needed a database that was dependable and did not require any on-site administration.”

Margo Zenk
Matrix Consultants

Superior Performance, Reliability

Oracle9i and MySQL top throughput



Throughput is in returned Web pages per second from the application server. Number of users is number of concurrent Web clients driving the load. Response time is the time to complete the six bookstore user action sequences, weighted by frequency of each sequence in the mix. All tests were conducted on an HP NetServer LT 6000r with four 700MHz Xeon CPUs, 2GB of RAM, a Gigabit Ethernet Intel Corp. Pro/1000 F Server Adapter and 24 9.1GB Ultra3 SCSI hard drives used for database storage.

eWeek's Database Benchmark

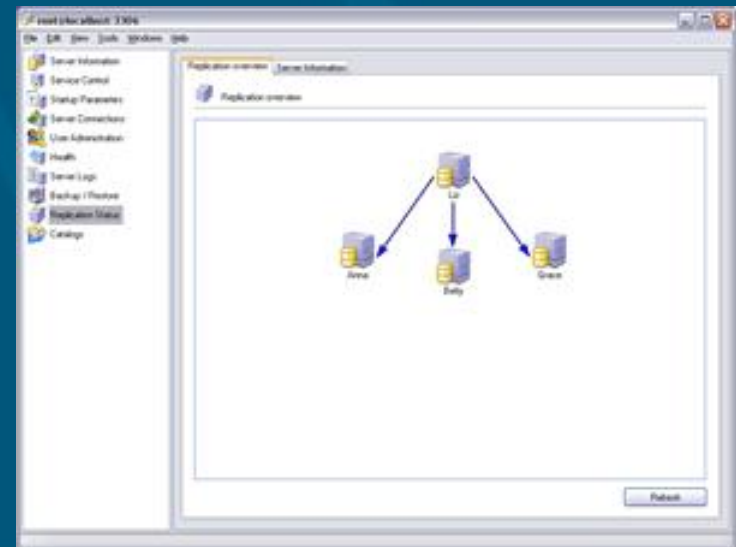
- MySQL has the best overall performance and scalability (matching Oracle)
- MySQL excelled in stability, easy of tuning, and connectivity
- MySQL offered the highest throughput

Ease of Use

- Users of products with embedded databases are not necessarily database savvy
- Database functionality must be easy to use
- MySQL delivers ease of use for non-experts
- Popular administration tools available
 - MySQL Administrator
 - Quest Software Toad for MySQL
 - Embarcadero ER/Studio

“MySQL is the easiest database to configure.”

**Wing Gee, Project Manager
Pason Systems**



Existing Engine Enhancements Q4 - 2006



Business Intelligence

- Table/Index Partitioning
- Full Text Search Enhancements
- Better XML Handling – XPath
- Archive engine enhancements

Higher Performance

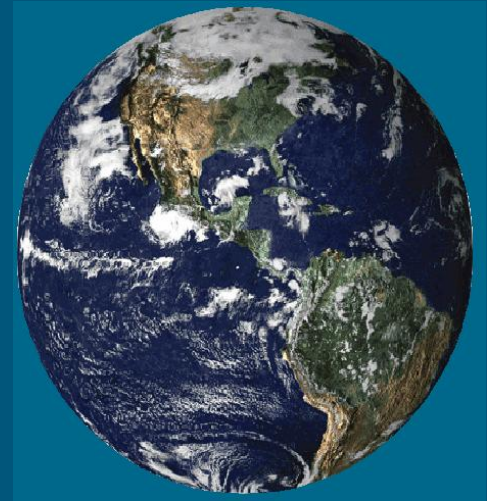
- Faster alter table
- Faster add/drop index for MySQL Cluster
- Faster data import operations
- Better user session and problem SQL identification
- New Performance/Load Testing Utility
- New MyISAM memory option

High Availability

- Disk-based Cluster
- Row-based Replication
- Cluster replication

Easier Manageability

- Task Scheduler
- Transaction support for Federated Engine



It is a billion dollar
opportunity for all of
us.

For further information:

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Thank you!