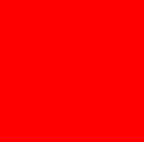


ORACLE[®]

MySQL 5.5



The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

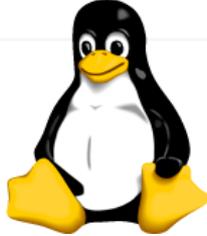
The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

Overview of MySQL

- 12 million product installations
- 65,000 downloads each day
- Part of the rapidly growing open source LAMP stack
- MySQL GPL & Commercial Editions Available



LAMP

Operating System		L
Application Server		A
Database		M
Scripting	  	P

MySQL is Everywhere

Multiple Platforms



Multiple Languages

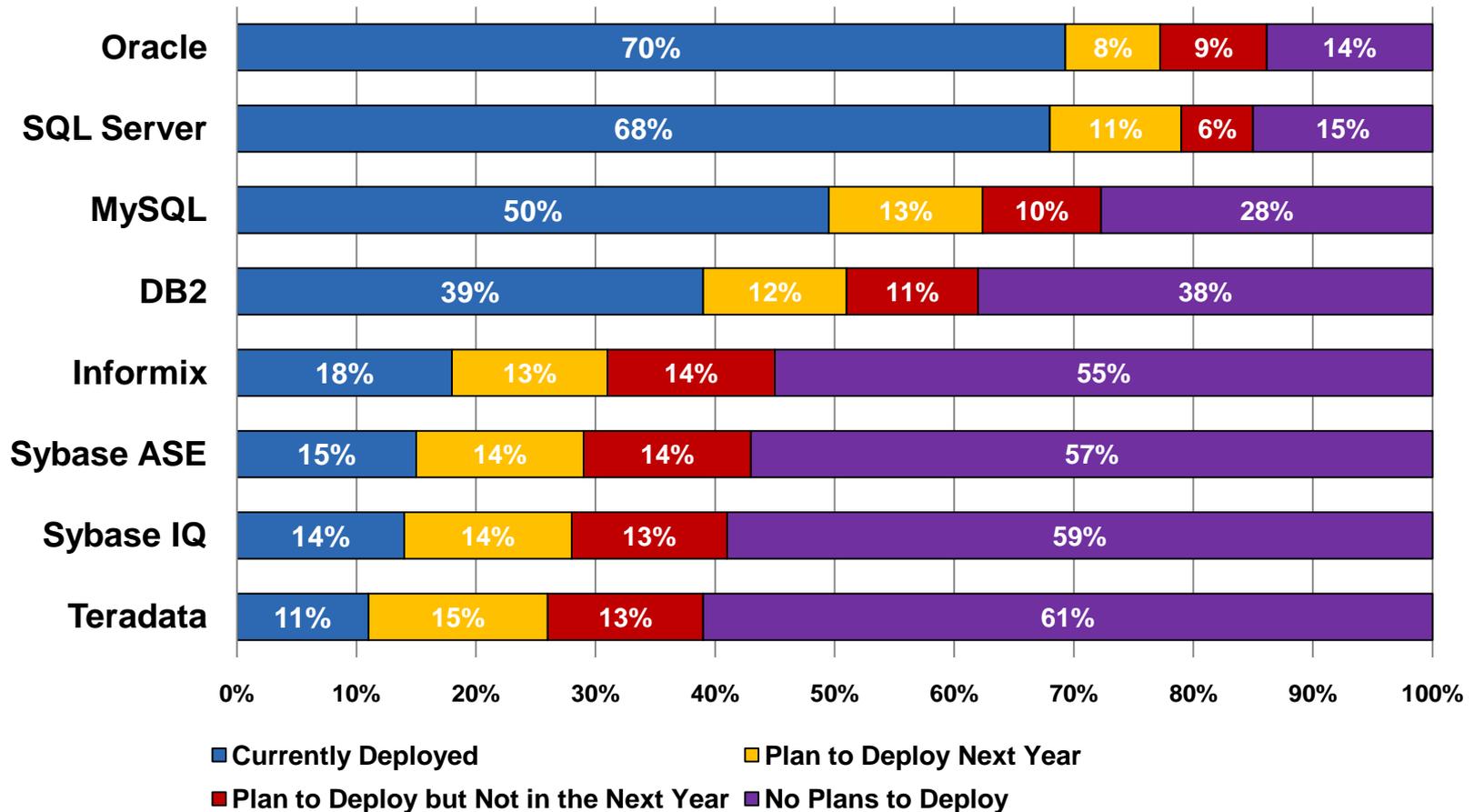


C

C++

C#

MySQL: #3 Most Deployed Database



63% Are Deploying MySQL or Are Planning To Deploy

Oracle's Investment in Open Source

- Driven by customer demand
- Committed to supporting, developing, promoting, and adopting viable open source technologies
- Enable developer communities
- Open standards are key



Investment in MySQL

- **Make MySQL a Better MySQL**
 - #1 Open Source Database for Web Applications
- **MySQL Focus Areas**
 - Web, Embedded & Telecom
 - LAMP
 - Windows
- **Develop, Promote and Support MySQL**
 - Improve engineering, consulting and support
 - Leverage 24x7, World-Class Oracle Support
- **MySQL Community Edition**
 - Source and binary releases
 - GPL license



MySQL Customers



Web



OEM / ISV's



SaaS, Hosting



Telecommunications



Enterprise 2.0

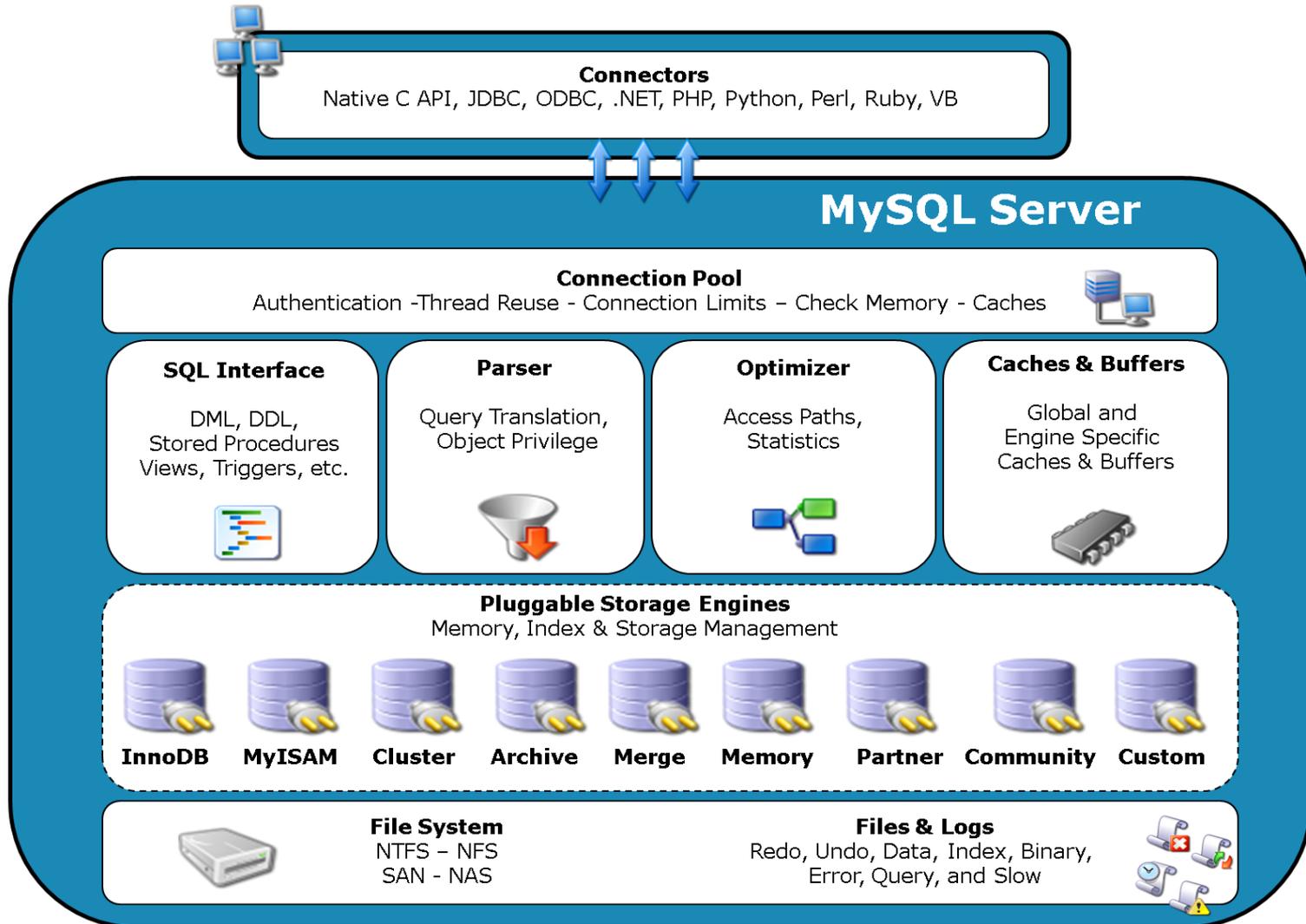
MySQL is Powering the Web

Products

Making MySQL Better Today



Pluggable Storage Engine Architecture



MySQL 5.5 – What's New



InnoDB becomes default storage engine

- ACID Transactions, FKs, Crash Recovery

Improved Availability

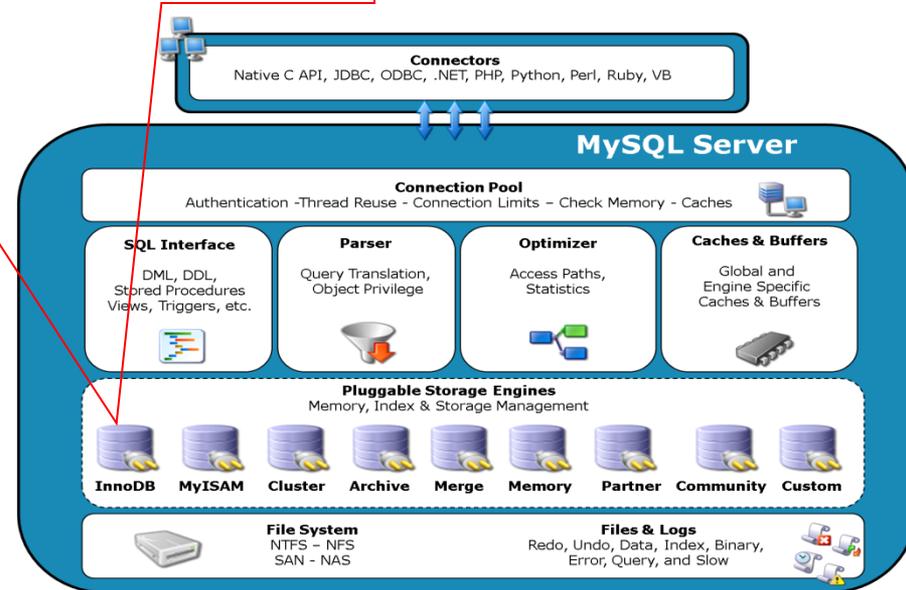
- Semi-synchronous Replication
- Replication Heartbeat
- Replication Slave fsync options
- Automatic Relay Log Recovery

Improved Usability

- SIGNAL/RESIGNAL
- More Partitioning Options
- Replication Server Filtering
- Replication Slave Side Type Conversions
- Individual Log Flushing
- Pluggable External Authentication, Audit interfaces

Better Instrumentation/Diagnostics

- New PERFORMANCE_SCHEMA



MySQL 5.5 – What's New



Better Performance, Scalability and Recovery

MySQL Performance Improvements

- Better Metadata Locking within Transactions
- Split LOCK_open mutex
- Eliminated LOCK_alarm mutex as bottleneck
- Eliminated LOCK_thread_count as bottleneck
- Improved Performance/Scale on Win32, 64
- More...

InnoDB Performance improvements

- Multiple Buffer Pool Instances
- Multiple Rollback Segments – now supports **128K** concurrent trxs
- Extended Change Buffering (with delete buffering, purge buffering)
- Improved Purge Scheduling
- Improved Log Sys mutex, Separate Flush List mutex
- Improved Recovery Times
- More...



InnoDB Multiple Buffer Pool

- **5.1:** *1 Buffer Pool*
- **5.5:** *up to 64 Buffer Pools*

The Car Park Analogy

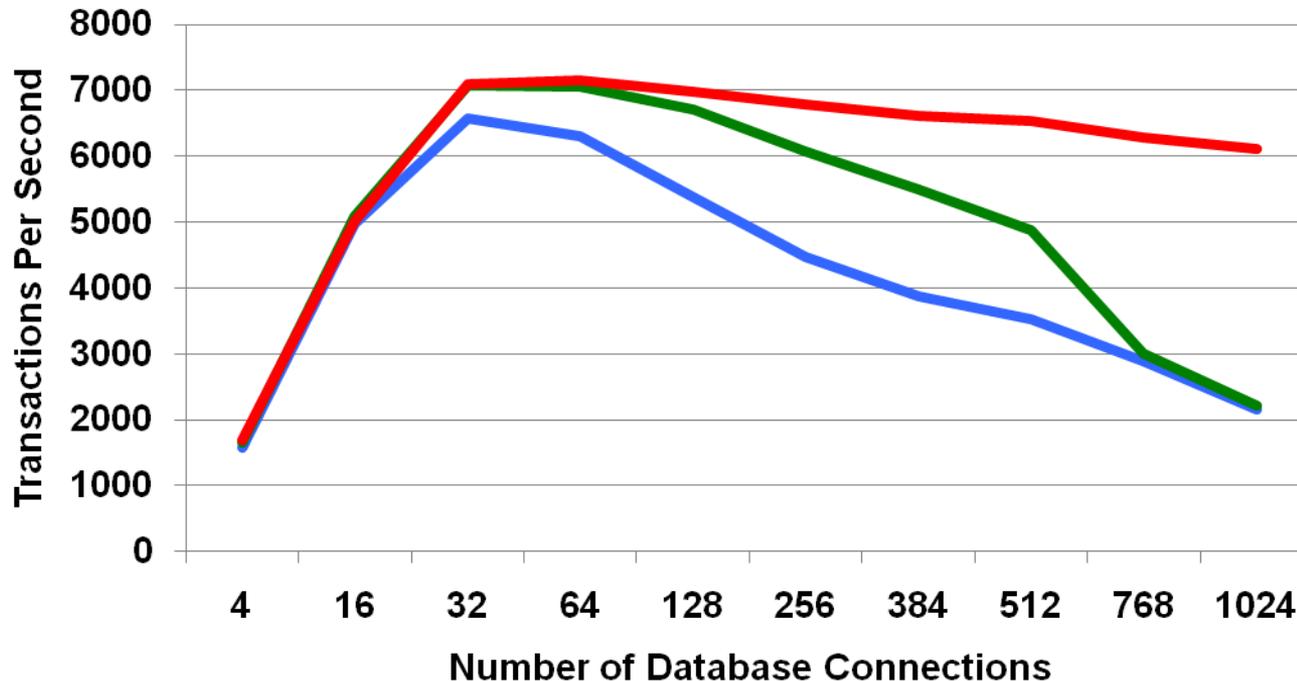
- In **5.1**, the Car Park had 1 entrance and 1 exit
- In **5.5**, the Car Park has 64 entrances and 64 exits
- The number of spaces available is the same, but cars can get in and out quicker



MySQL 5.5 SysBench Benchmark Linux



MySQL 5.5 vs. 5.1 - Read Only



MySQL 5.5.6
(New InnoDB)

MySQL 5.1.50
(InnoDB Plug-in)

MySQL 5.1.50
(InnoDB built-in)

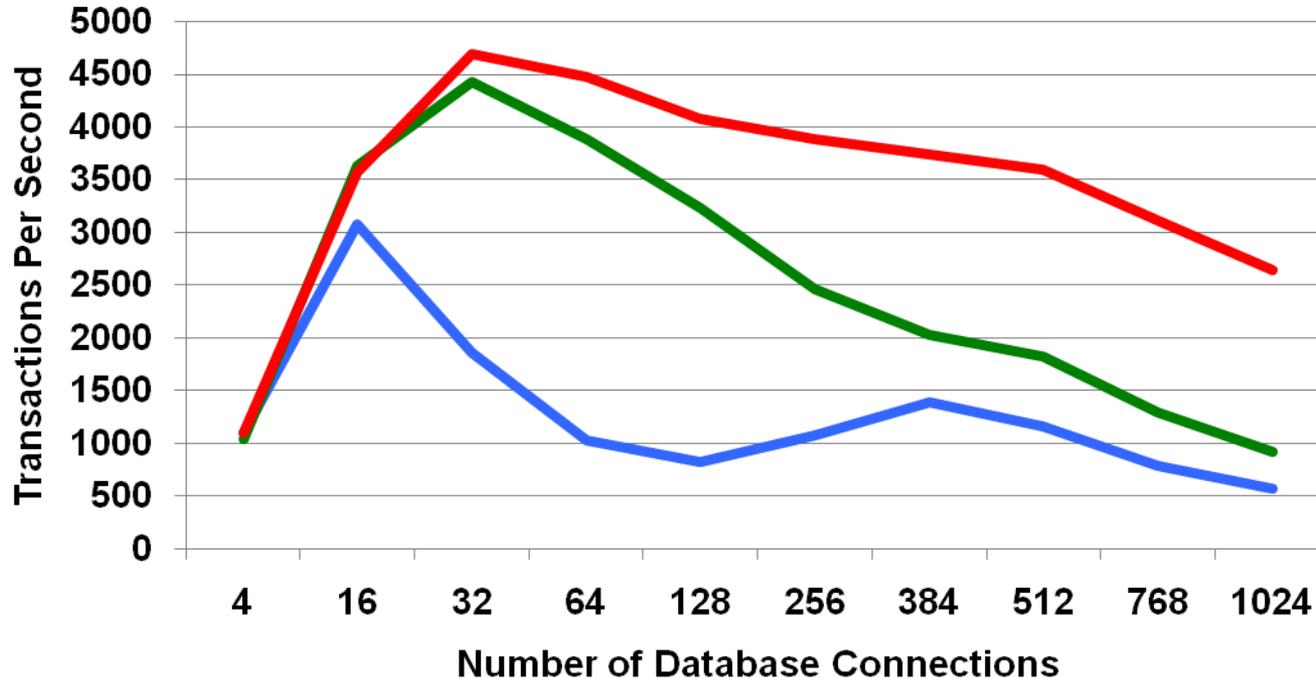
200% performance gain
for MySQL 5.5 over 5.1.50; at scale

Intel Xeon X7460 x86_64
4 CPU x 6 Cores/CPU
2.66 GHz, 32GB RAM
Fedora 10

MySQL 5.5 SysBench Benchmark Linux



MySQL 5.5 vs. 5.1 - Read Write



MySQL 5.5.6
(New InnoDB)

MySQL 5.1.50
(InnoDB Plug-in)

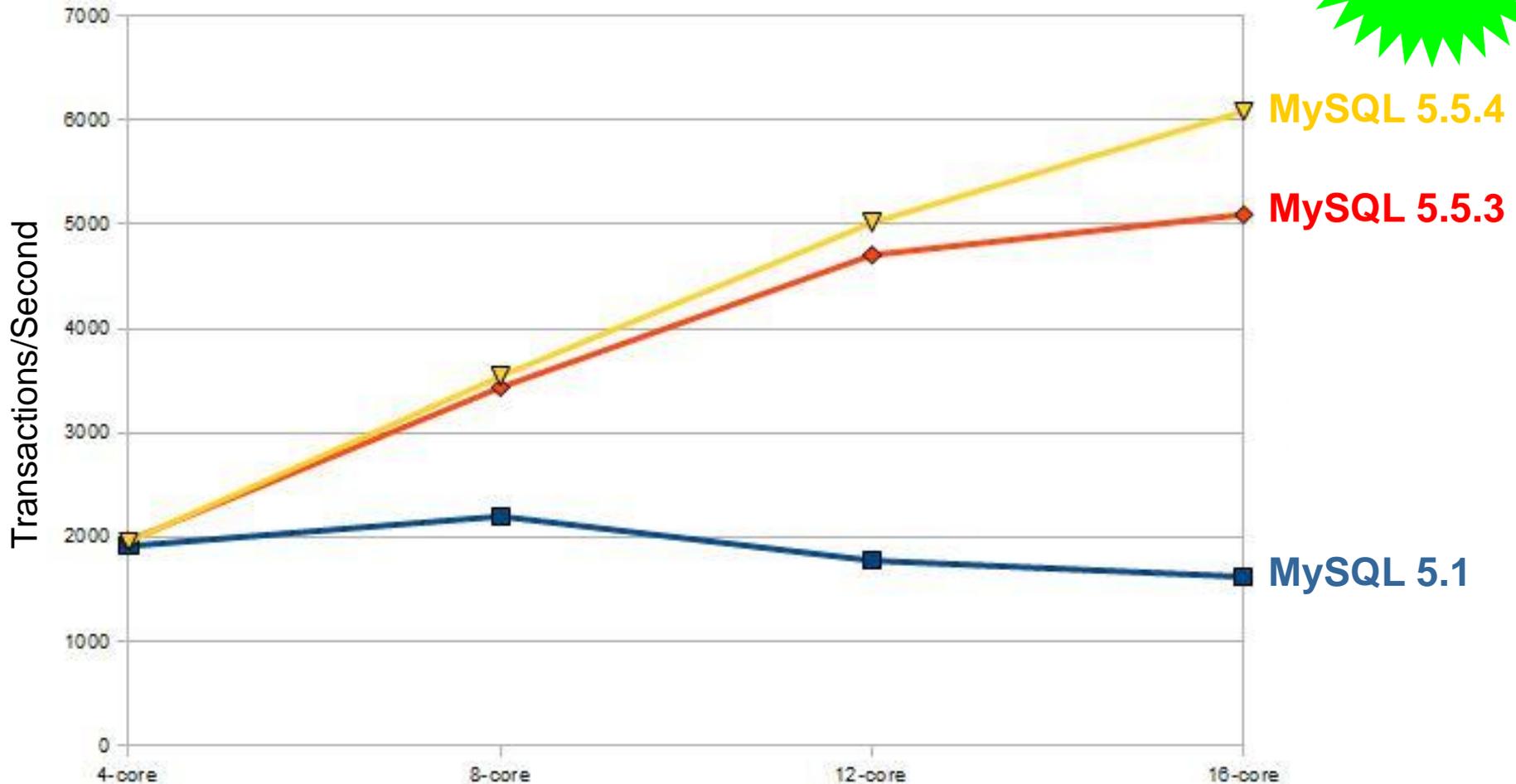
MySQL 5.1.50
(InnoDB built-in)

370% performance gain
for MySQL 5.5 over 5.1.50; at scale

Intel Xeon X7460 x86_64
4 CPU x 6 Cores/CPU
2.66 GHz, 32GB RAM
Fedora 10

MySQL 5.5 Scales on multi core

SysBench Read Write

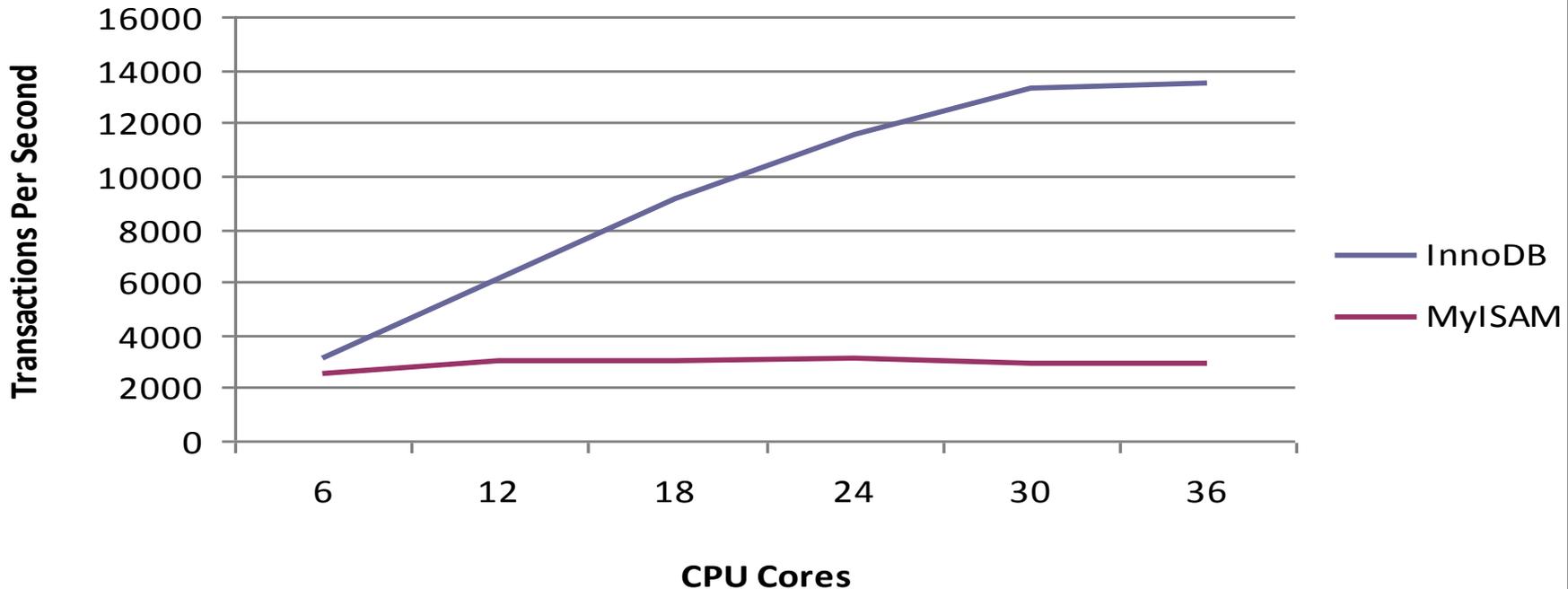


AMD Opteron 7160 (Magny-Cours) @2100 MHz
64 GB memory
2 x Intel X25E SSD drives
OS is Oracle Enterprise Linux with the Enterprise Kernel
4 sockets with a total of 48 cores.

MySQL 5.5 Scales on multi core

GA

Sysbench OLTP: Read Only Performance



AMD Opteron 7160 (Magny-Cours) @2100 MHz
64 GB memory
2 x Intel X25E SSD drives
OS is Oracle Enterprise Linux with the Enterprise Kernel
4 sockets with a total of 48 cores.

MySQL on Windows

The Right Choice

- **Significant Developer Adoption**
 - Windows is the #1 download and dev platform for MySQL
 - MySQL 5.5 is optimized on Windows

Performance & Scalability

- Improved on Windows
- MySQL 5.5 Benchmarks

Lower TCO

- More Affordable than MS SQL Server
- Easier to Administer

Ease of Use

- MySQL Workbench
- New Connector/NET 6.3
- Out of box it “just works”

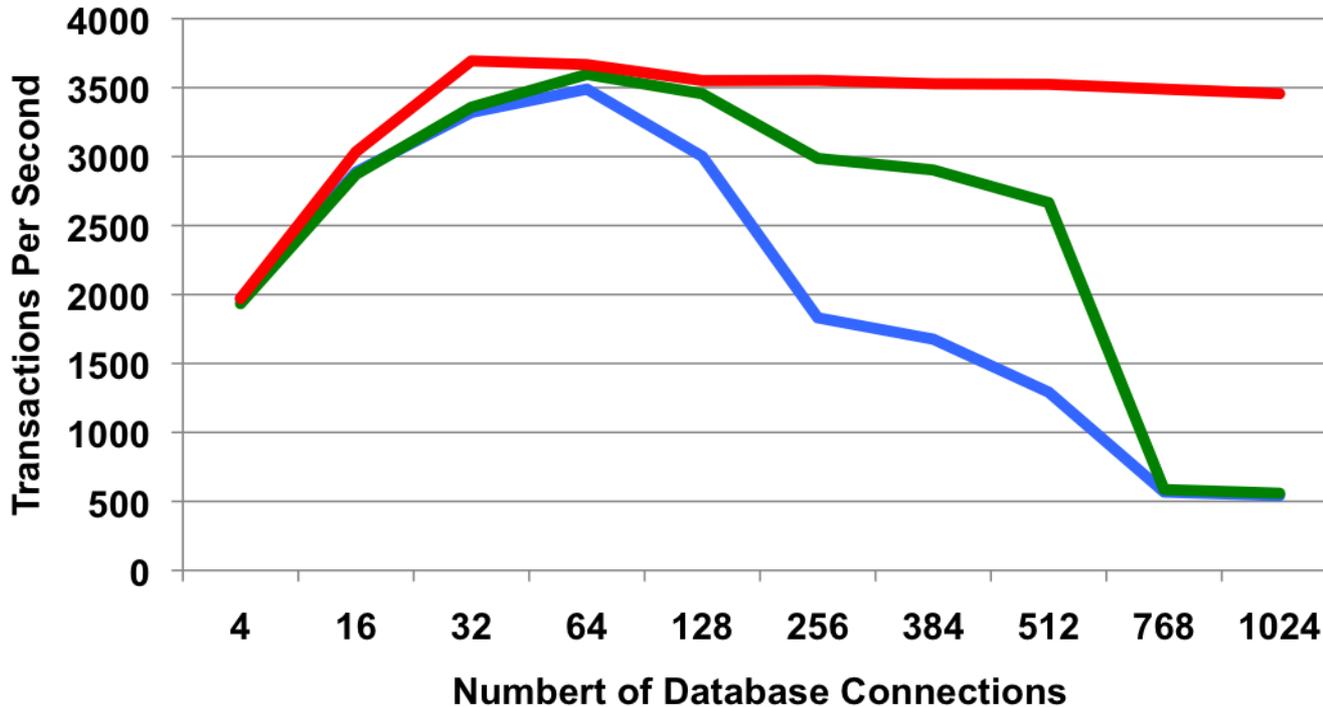
Cross-platform

- 20+ Platforms
- No lock-in, use OS of choice

MySQL 5.5 SysBench Benchmark Windows



MySQL 5.5 vs. 5.1 - Read Only



MySQL 5.5.6

(New InnoDB)

MySQL 5.1.50

(InnoDB Plug-in)

MySQL 5.1.50

(InnoDB built-in)

540% performance gain

for MySQL 5.5 over 5.1.50; at scale

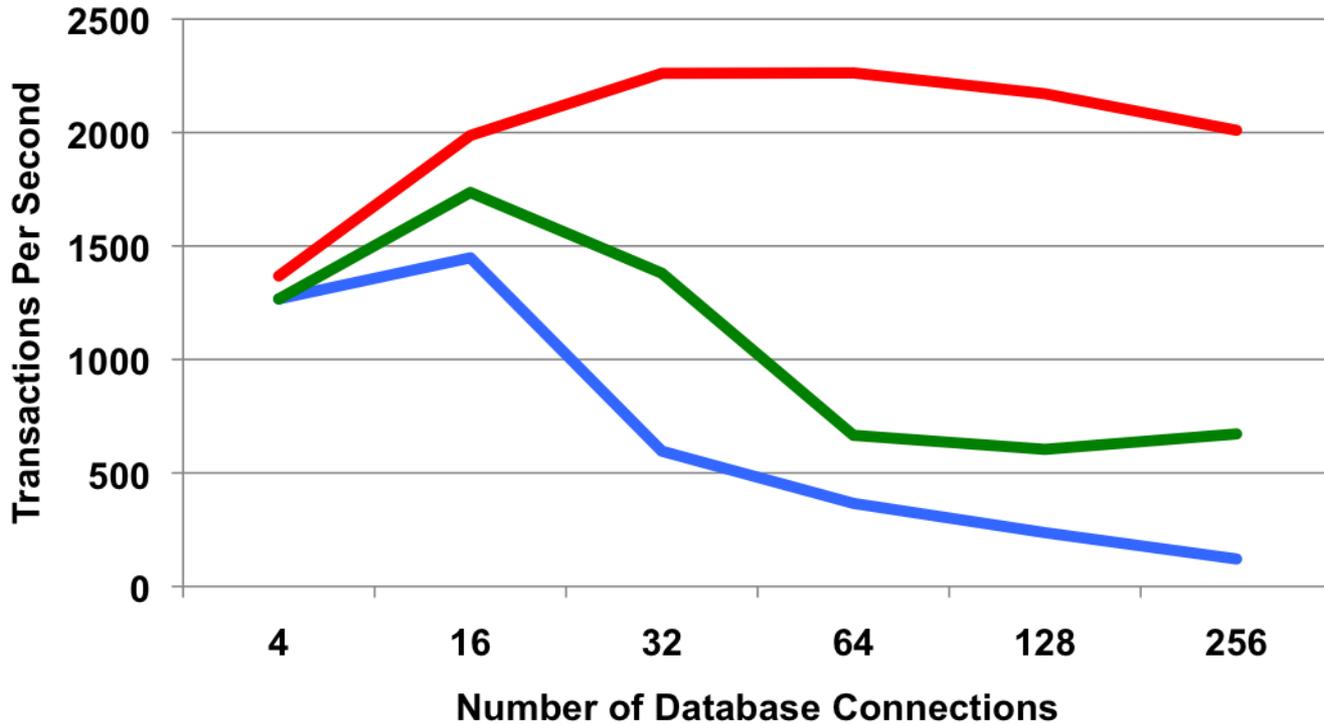
Intel x86_64
4 CPU x 2 Cores/CPU
3.166 GHz, 8GB RAM
Windows Server 2008

ORACLE

MySQL 5.5 SysBench Benchmark Windows



MySQL 5.5 vs. 5.1 - Read Write



MySQL 5.5.6
(New InnoDB)

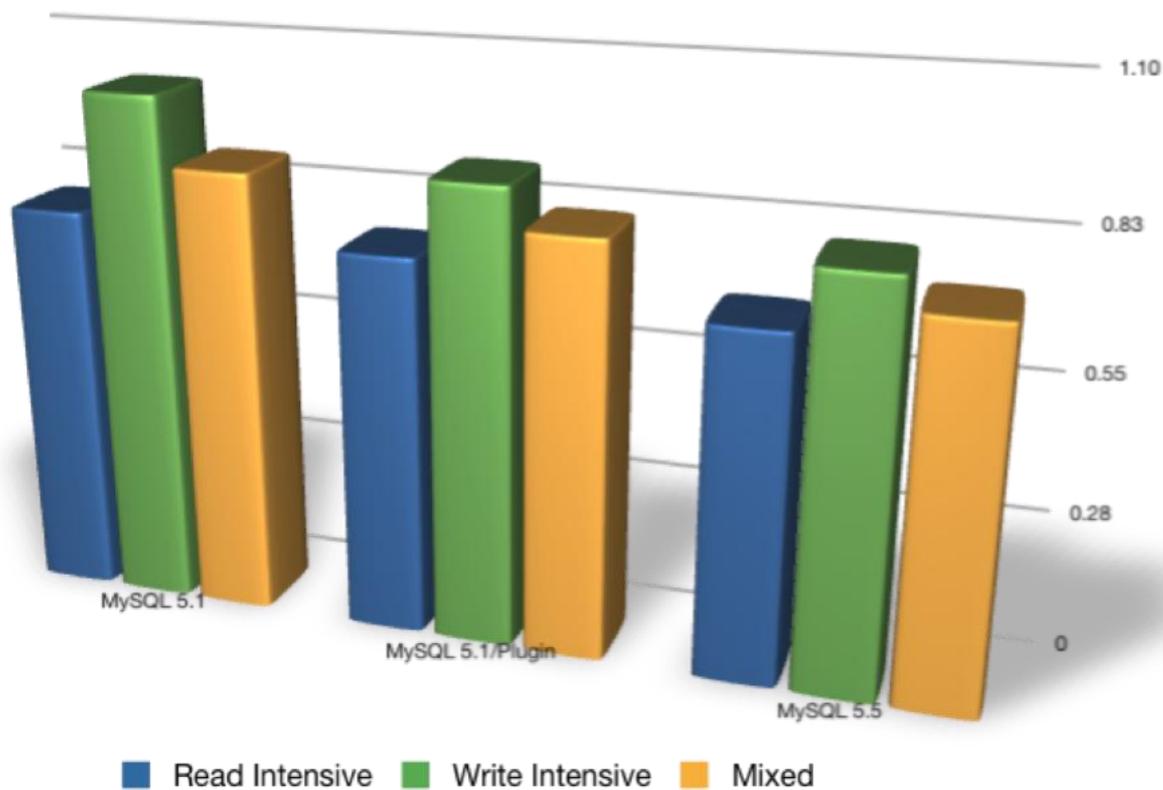
MySQL 5.1.50
(InnoDB Plug-in)

MySQL 5.1.50
(InnoDB built-in)

1560% performance gain
for MySQL 5.5 over 5.1.50; at scale

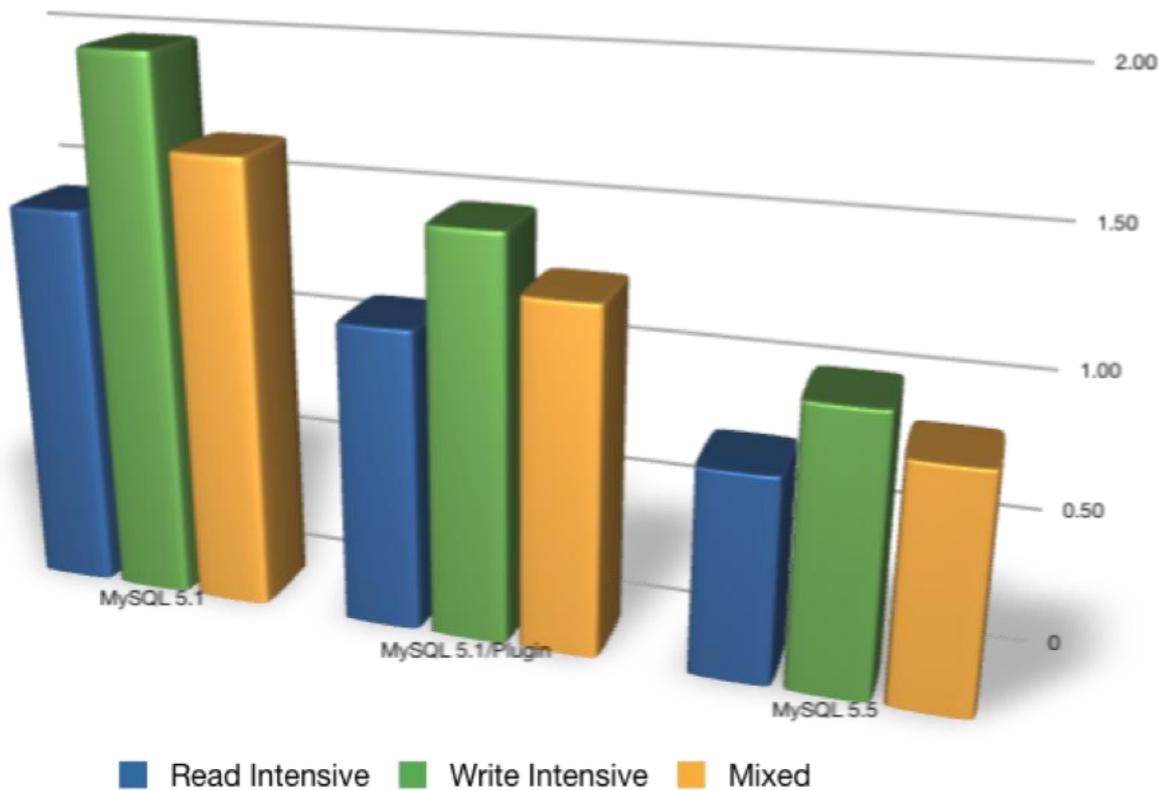
Intel x86_64
4 CPU x 2 Cores/CPU
3.166 GHz, 8GB RAM
Windows Server 2008

MySQL 5.5 with Java Applications Cost per Transaction



	MySQL 5.1	MySQL 5.1/Plugin	MySQL 5.5
Read Intensive	0.78	0.75	0.68
Write Intensive	1.02	0.90	0.80
Mixed	0.88	0.82	0.74

MySQL 5.5 with PHP Applications Cost per Transaction



	MySQL 5.1	MySQL 5.1/Plugin	MySQL 5.5
Read Intensive	1.41	1.11	0.75
Write Intensive	1.98	1.47	1.02
Mixed	1.65	1.26	0.86

Multiple Rollback Segments

- **5.1:** 1 Rollback Segment can handle up to 1023 concurrent “write” transactions
- **5.5:** 128 Rollback Segments can handle up to 128k concurrent “write” transactions

The Highway Analogy

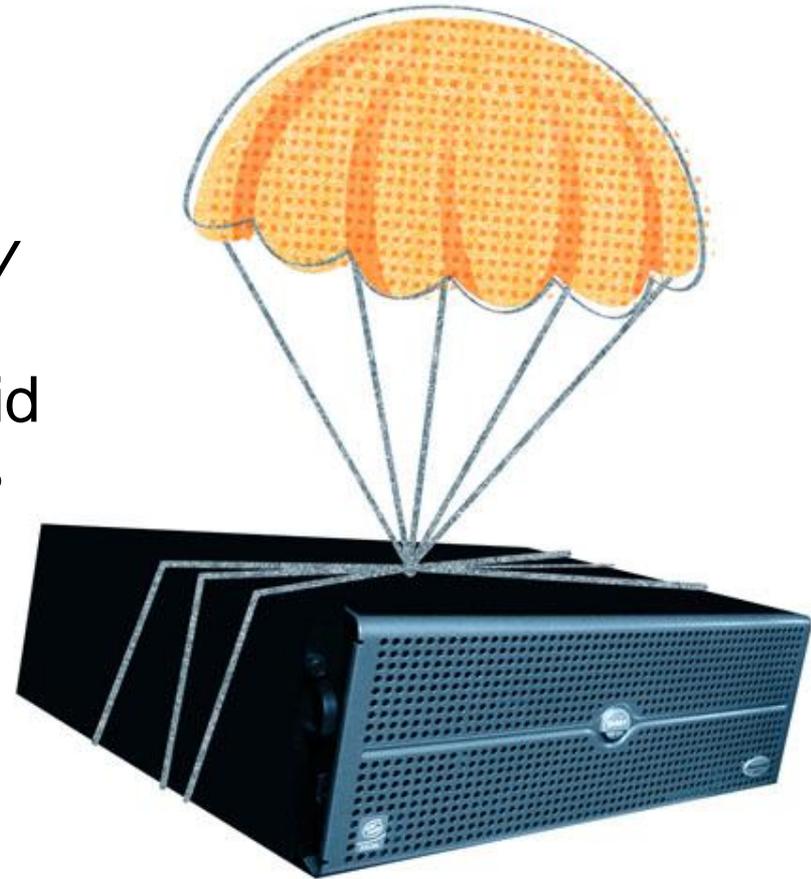
- In **5.1**, the highway had 1 lane
- In **5.5**, the highway has 128 lanes
- Each lane can still handle up to 1023 cars per hour and cars run at the same speed, but 128 lanes can handle 128k cars per hour in total



Improved Recovery Performance

“Standard SysBench recovery improved from 7 hours to 14 minutes”

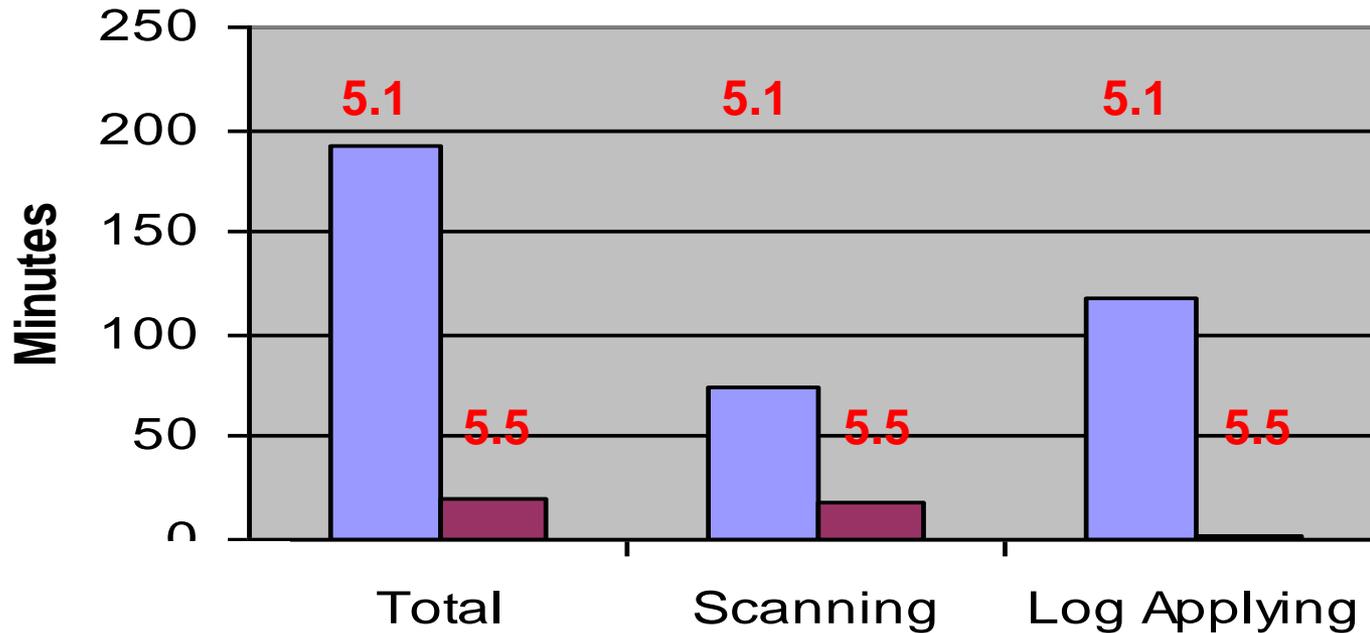
- In many circumstances, *recovery time is downtime.*
- Only MySQL Replication can avoid this situation, but it is not always applicable



Improved Recovery Performance



Crash Recovery



**> 10x recovery performance gain
for MySQL 5.5 over 5.1**

50 warehouses
Database=9800MB
Innodb_log_file_size=2x1950MB
Buffer_pool=12GB
Started tested, killed server@5 mins

Intel Xeon X7460 x86_64
4 CPU x 6 Cores/CPU
2.66 GHz, 32GB RAM
Fedora 10

What they are saying...

“Thanks to the MySQL and InnoDB teams for their continued hard work and dedication to making MySQL faster as hardware evolves. I, for one, cannot wait to see what this stuff does for us. “

– Jeremy Zawodny, Craigslist

“I’m really blown away by MySQL 5.5.4’s improvements. “

-Don MacAskill, SmugMug

“I think that it’s time to take Don MacAskill’s praise of Percona last year (“great things are afoot”) and pass it over to MySQL and InnoDB! “

-Baron Schwartz

“My expectations for 5.5 were not high. I am pleasantly surprised!”

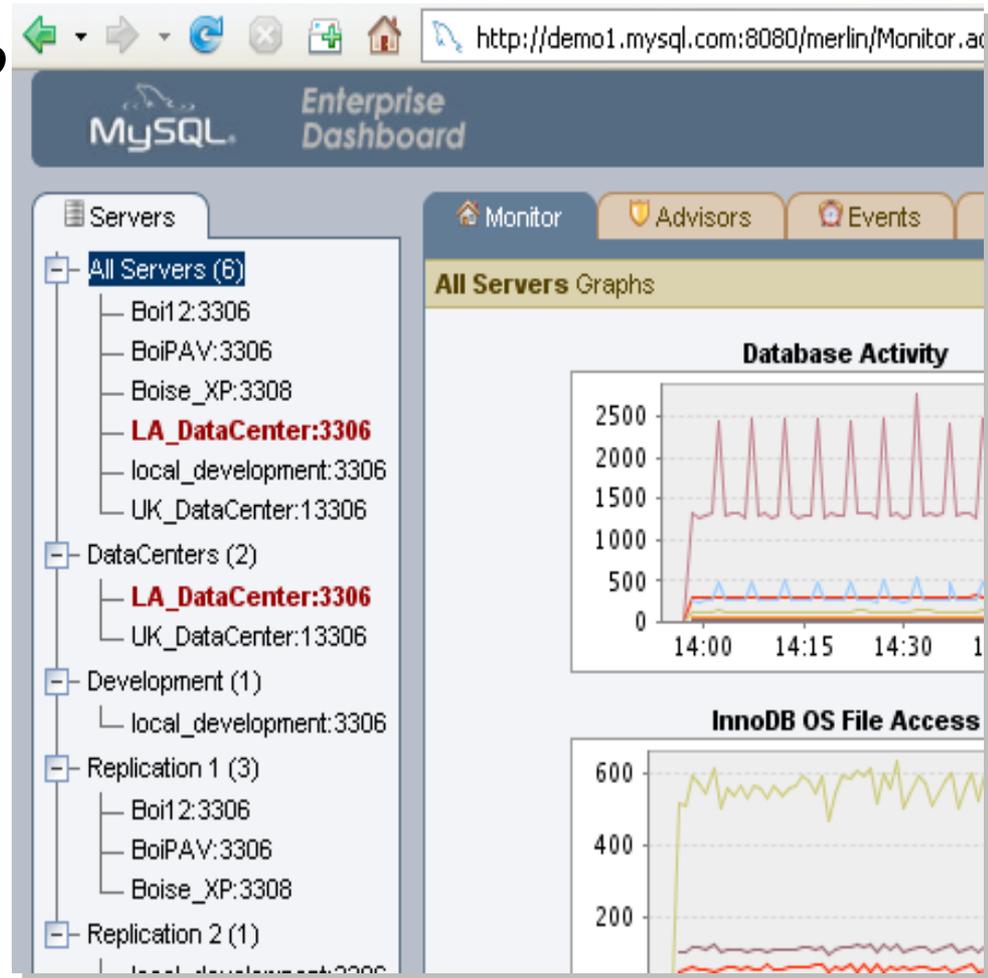
- Mark Callaghan, Facebook, MySQL UC Keynote

MySQL Enterprise Edition

MySQL Database 	<ul style="list-style-type: none">•Reliability•Performance•Ease of Use
MySQL Enterprise Backup 	<ul style="list-style-type: none">•Online “Hot” Backup•Full, Incremental, Partial Backups•Point in Time Recovery (PITR)
MySQL Enterprise Monitor 	<ul style="list-style-type: none">•Global Monitoring of All Servers•Advisors with Best Practice Advice•MySQL Query Analyzer
MySQL Workbench 	<ul style="list-style-type: none">•Database Design•SQL Development•MySQL Administration
Oracle Premier Support 	<ul style="list-style-type: none">• Online Knowledge Base• 24x7 Problem Resolution• Consultative Support

MySQL Enterprise Monitor

- **Single, consolidated view into entire MySQL environment**
- **Auto-discovery of MySQL servers, replication topologies**
- **Customizable rules-based monitoring and alerts**
- **Query monitoring and analysis**
- **Identifies problems before they occur**
- **Reduces risk of downtime**
- **Makes it easier to scale out without requiring more DBAs**



A Virtual MySQL DBA Assistant!

Enterprise Monitor Architecture

Service Agent written in C and supports all MySQL Enterprise platforms



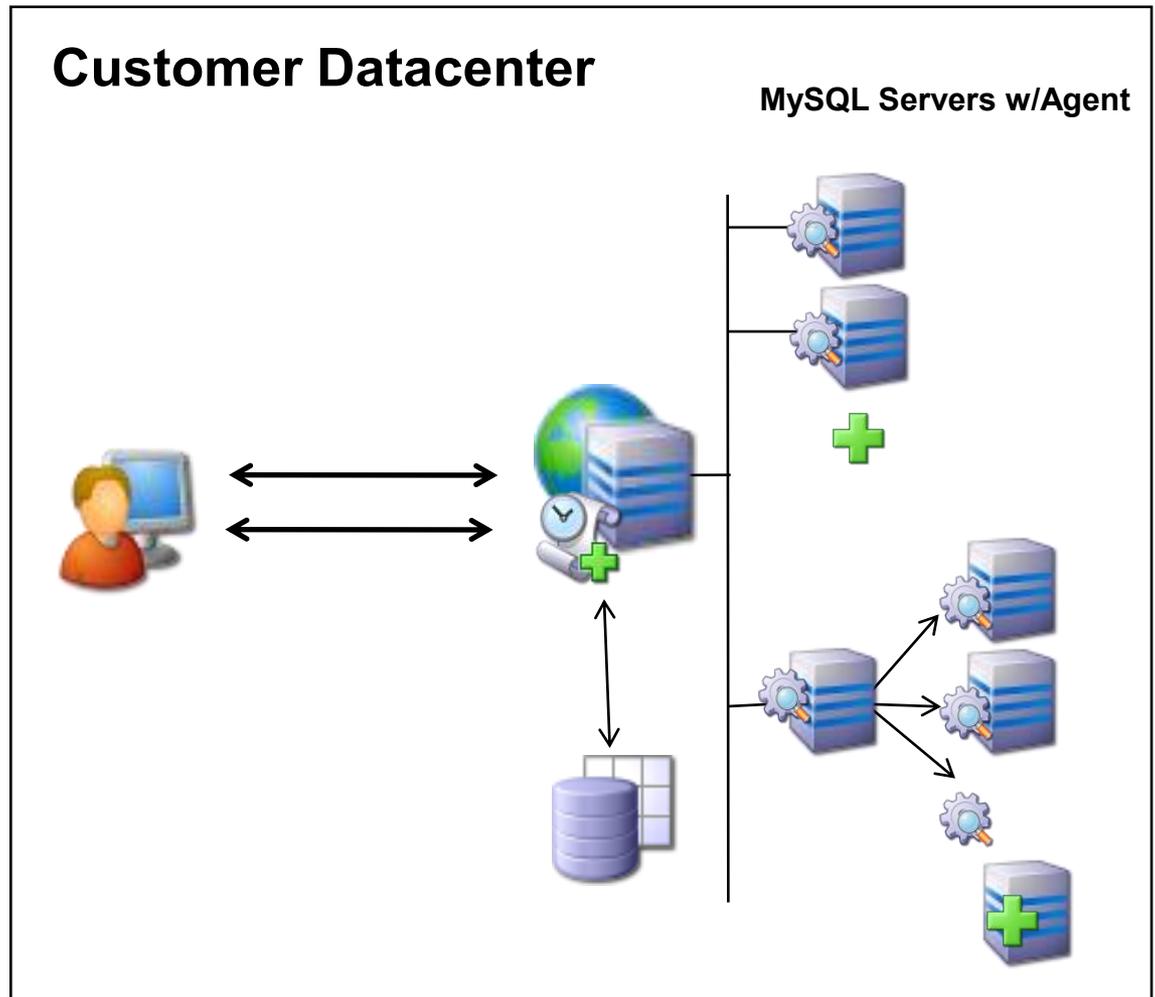
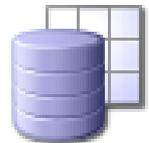
Service Manager written in Java servlets exposed as web services. Supports Linux, Solaris, Mac OSX and Microsoft Windows



Enterprise Dashboard Web-based, written in JSP



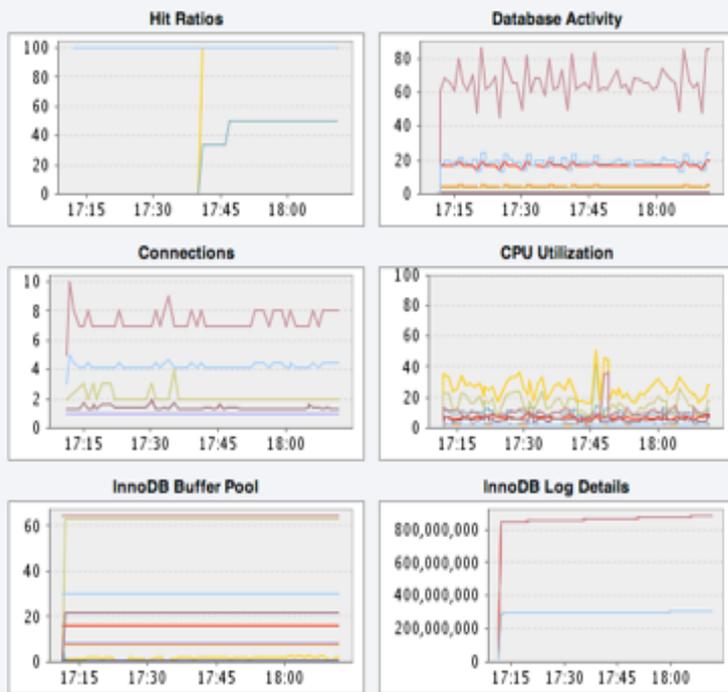
Repository holds historical performance data for analysis



- Servers
- All Servers (7)
- DataCenters (1)
- Development (1)
- GN (1)
- Replication 1 (3)
 - Boi_XP:3308
 - Boise12:3306
 - BoisePAV:3306
- Replication 2 (1)

- Monitor
- Advisors
- Events
- Graphs
- Replication
- Settings

All Servers Graphs



edit favorites configure graphs

All Servers Critical Events

[1 to 20 of 40] 1 2 next >

Server	Category	Rule	Time	
GN_maggie:3306	Heat Chart	MySQL Server Not Reachable	Oct 10, 2007 9:57:06 AM	close
GN_maggie:3306	Heat Chart	Table Scans Excessive	Oct 10, 2007 9:17:07 AM	close
BoisePAV:3306	Heat Chart	Query Cache Has Sub-Optimal Hit Rate	Oct 4, 2007 10:11:31 AM	close
Boise12:3306	Heat Chart	Query Cache Has Sub-Optimal Hit Rate	Oct 2, 2007 9:11:26 AM	close
Boise12:3306	Security	Security Alterations Have Been Detected	Sep 28, 2007 1:31:36 PM	close
Boi_XP:3308	Heat Chart	CPU Usage Excessive	Sep 10, 2007 3:56:31 PM	close
BoisePAV:3306	Memory Usage	Thread Cache Size May Not Be Optimal	Sep 7, 2007 4:24:42 PM	close
Boi_XP:3308	Heat Chart	Temporary Tables To Disk Ratio Excessive	Sep 6, 2007 5:18:44 PM	close
Boise12:3306	Heat Chart	MySQL Agent Not Reachable	Sep 5, 2007 9:47:08 AM	close
BoisePAV:3306	Heat Chart	MySQL Agent Not Reachable	Sep 5, 2007 9:47:08 AM	close
Boi_XP:3308	Heat Chart	MySQL Agent Not Reachable	Sep 5, 2007 9:47:08 AM	close

All Servers Heat Chart

	Agent Status	Server Status	CPU Usage	IO Usage	RAM Usage	Lock Contention	MySQLSAM Usage	Temp Tables to Disk	Query Cache	Table Scans	Critical Alerts	Warnings	Info	
All Servers (7)	●	●	●	●	●	●	●	●	●	●	●	40	77	36
Boi_XP:3308	●	●	●	●	●	●	●	●	●	●	●	7	12	3
Boise12:3306	●	●	●	●	●	●	●	●	●	●	●	7	16	8
BoisePAV:3306	●	●	●	●	●	●	●	●	●	●	●	11	15	10
GN_maggie:3306	●	●	●	●	●	●	●	●	●	●	●	2	1	0
LA_DataCenter:3306	●	●	●	●	●	●	●	●	●	●	●	4	11	6
local_development:3306	●	●	●	●	●	●	●	●	●	●	●	6	11	3
UK_development:3306	●	●	●	●	●	●	●	●	●	●	●	3	11	6
DataCenters (1)	●	●	●	●	●	●	●	●	●	●	●	4	11	6
Development (1)	●	●	●	●	●	●	●	●	●	●	●	6	11	3
GN (1)	●	●	●	●	●	●	●	●	●	●	●	2	1	0
Replication 1 (3)	●	●	●	●	●	●	●	●	●	●	●	25	43	21
Replication 2 (1)	●	●	●	●	●	●	●	●	●	●	●	6	11	3

Show Legend

Standalone Heat Chart

MySQL Query Analyzer

The screenshot shows the MySQL Query Analyzer interface. The 'Query Analysis' tab is selected and circled. The interface displays a list of queries with columns for Query, Database, and Total execution time. A callout box points to the 'Query' column with the text: 'By Server, Application, Query Content, Query Type, Date/ Time Range'.

Query List:

Query	Database	Total
`commit`	merlin	00:00:05.063
INSERT INTO `inventory_...t` = `insert_count` + ?	merlin	00:00:04.656
`rollback`	merlin	00:00:04.250
SELECT `this_...` `insta...` `attribute_id` = ?)	merlin	00:00:03.953
SELECT `this_...` `insta...` `instance_name` = ?)	merlin	00:00:01.031
INSERT IGNORE INTO `dc_...ALUES` (?, ?, ?, ?)	merlin	00:00:00.875
INSERT IGNORE INTO `dc_...ALUES` (?, ?, ?, ?)	merlin	00:00:00.719
INSERT INTO `inventory_...t` = `insert_count` + ?	merlin	00:00:00.609
SELECT `ruleexpres0_...0_` `variable_id` = ?	merlin	00:00:00.500
SELECT `hibinstanc0_...` `requery` IS NOT NULL)	merlin	00:00:00.438

Query Details (Right Panel):

Alias: None specified.

Canonical Query Text: truncated | full | formatted

```
SELECT
  `ruleexpres0_...` `variable_id` AS `variable1_21_2_`, `ruleexpres0_...` `attribute_id` AS `attribute4_21_2_`,
  `ruleexpres0_...` `instance_name` AS `instance2_21_2_`,
  `ruleexpres0_...` `name` AS `name21_2_`, `hibattribul_...` `attribute_id` AS `attribute1_2_0_`,
  `hibattribul_...` `type_id` AS `type2_2_0_`, `hibattribul_...` `attribute_name` AS `attributes_2_0_`,
  `hibattribul_...` `attribute_type` AS `attribute4_2_0_`,
  `hibattribul_...` `insert_count` AS `insert5_2_0_`, `hibtype2_...` `type_id` AS `type1_1_1_`,
  `hibtype2_...` `type_name` AS `type2_1_1_`, `hibtype2_...` `namespace_id` AS `namespace3_1_1_`,
  `hibtype2_...` `insert_count` AS `insert4_1_1_`
FROM `rule_variables` AS `ruleexpres0_`
INNER OUTER JOIN `inventory_attributes` AS `hibattribul_`
ON `ruleexpres0_...` `attribute_id` = `hibattribul_...` `attribute_id`
LEFT JOIN `inventory_types` AS `hibtype2_`
ON `hibattribul_...` `type_id` = `hibtype2_...` `type_id` WHERE
  `ruleexpres0_...` `variable_id` = ?
```

Execution Time Statistics:

Max Time	Min Time	Avg Time	Total Time	Standard Deviation
00:00:00.016	00:00:00.000	00:00:00.001	00:00:00.500	

Row Statistics:

Max Rows	Min Rows	Avg Rows	Total Rows	Standard Deviation	Total Size	Max Size
1	0	1	991		80.24 KB	123 B

Number of Executions: 991

Summary Time Span: From Jul 25, 2008 4:35:17 PM to Jul 25, 2008 5:05:17 PM.

Built-In Knowledgebase

The screenshot shows a MySQL performance advisor tip window titled "InnoDB Flush Method May Not Be Optimal (v 1.2 *)". The window has two tabs: "Details" (selected) and "Advanced". The content is organized into sections: "Advisor" (Performance), "Problem Description" (explaining that different `innodb_flush_method` values can affect performance, with `fsync()` being slow), "Advice" (reviewing settings and mentioning `O_DIRECT` and `O_DSYNC`), "Recommended Action" (None specified), and "Links and Further Reading" (with links to MySQL Manual sections on InnoDB startup options and performance tuning). A "hide" button is located at the bottom right of the tip window.

lemo1.mysql.com:8080/merlin/CurrentSchedule.action

ivisors

Details Advanced

InnoDB Flush Method May Not Be Optimal (v 1.2 *)

Advisor
Performance

Problem Description
Different values for `innodb_flush_method` can have a marked effect on InnoDB performance. In some versions of GNU/Linux and Unix, flushing files to disk by invoking `fsync()` (which InnoDB uses by default) or other similar methods, can be surprisingly slow. If you are dissatisfied with database write performance, you might try setting the `innodb_flush_method` parameter to `O_DIRECT` or `O_DSYNC`.

Advice
Review your setting of the `innodb_flush_method` variable based on your application, operating system, and storage environment. It is currently set to `%innodb_flush_method%`. The default (`fdatasync`) may be best. `O_DIRECT` can be good for I/O, especially within "local filesystems", as it also avoids doublewrite buffering. However, `O_DIRECT` is bad for network attached storage such as SAN/NFS. `O_DSYNC` can cause extra overhead above the default of `fdatasync` and there have been problems with it on many varieties of Unix. However, at least one user has reported that using `O_DSYNC` on NetBSD makes a huge difference.

Recommended Action
None specified.

Links and Further Reading
[MySQL Manual: InnoDB Startup Options and System Variables](#)
[MySQL Manual: InnoDB Performance Tuning Tips](#)

hide

res Found With SELECT * Syntax (5)

MySQL Replication Monitor

MySQL Enterprise Dashboard

Replication Monitoring

Servers	Type	Slave IO	Slave SQL	Seconds Behind	Binlog	Binlog Pos	Master Binlog	Master Binlog Pos	Last Error
Basic (2)	TREE	Running	Running						
master:10101	master				MysqldResource-bin.000002	1,274			
slave:10100	slave	Running	Running	00:00:00			MysqldResource-bin.000002	1,274	
Ringlet (2)	RING	Running	Running						
Yang:10120	master/slave	Running	Running	00:00:00	MysqldResource-bin.000002	272	MysqldResource-bin.000002	446	
Yin:10121	master/slave	Running	Running	00:00:00	MysqldResource-bin.000002	446	MysqldResource-bin.000002	272	
RingSpoke (4)	MIXED	Running	Running						
ring1:10183	master/slave	Running	Running	00:00:00	MysqldResource-bin.000002	446	MysqldResource-bin.000002	272	
ring2:10182	master/slave	Running	Running	00:00:00	MysqldResource-bin.000002	272	MysqldResource-bin.000002	446	
ring3:10181	master/slave	Running	Running	00:00:00	MysqldResource-bin.000002	272	MysqldResource-bin.000002	272	
ring3slave:10180	slave	Running	Running	00:00:00			MysqldResource-bin.000002	272	
Tree 3 (5)	TREE	Running	Running						
master:10153	master				MysqldResource-bin.000002	272			
slave1:10150	slave	Running	Running	00:00:00			MysqldResource-bin.000002	272	
slave2master:10152	master/slave	Running	Running	00:00:00	MysqldResource-bin.000002	272	MysqldResource-bin.000002	272	
slave2slave:10151	slave	Running	Running	00:00:00			MysqldResource-bin.000002	272	
slave3:10154	slave	Running	Running	00:00:00			MysqldResource-bin.000002	272	

MySQL Enterprise © 2005-2007 MySQL AB. All rights reserved. Enterprise Software | Update Service | Knowledge Base | Technical Support | About

Monitoring 1 of 5 MySQL Enterprise Platinum servers. MySQL Enterprise Platinum subscription expires Jul 17, 2007. (10 hours remaining)

Logged in as "admin" (Jul 17, 2007 1:36 PM)

Makes it easier to scale out with MySQL

Auto-detects and groups master/slave relationships

Saves DBA time collecting master/slave status info from command line

MySQL Enterprise Backup



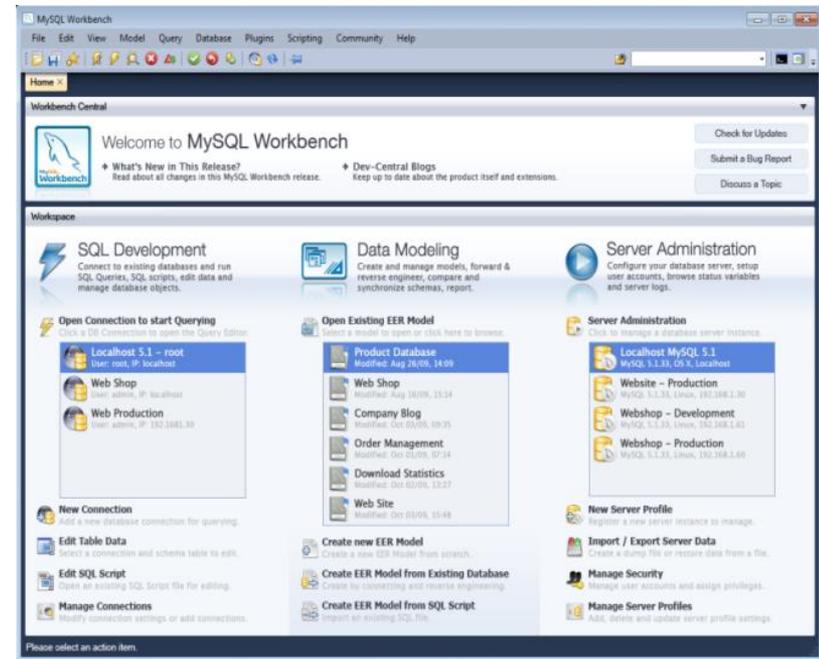
- ***Formerly “InnoDB Hot Backup”***
- ***Online Backup for InnoDB***
- ***Full, Incremental, Partial Backups***
- ***Compressed Backup***
- ***Point in Time Recovery (PITR)***
- ***High Performance***
- ***Unlimited Database Size***
- ***Cross-Platform (Windows, Linux, Unix)***

MySQL Backup Types: Comparison

	mysqldump	LVM Snapshots	MySQL Replication	MySQL Enterprise Backup
Full Backup	✓	✓	✓	✓
Incremental Backups	✗	✓	✗	✓
Partial Backups	✓	✗	✗	✓
Compression Support	✗	✗	✗	✓
Allows updates	✗	✗	✓	✓
Point in Time - Consistent	✗	✓	✓	✓
Backup Speed	Poor	Good	Very Good	Very Good
Recovery Speed	Very Poor	Good	Very Good	Very Good
Partial Restore	✓	✗	✗	✓
Corruption Detection	✓	✗	✗	✓
Meets Regulatory Archive Req.	✓	✗	✗	✓
Supports DDL	✓	✗	✗	✓

MySQL Workbench

- **SQL Development**
 - *SQL Editor - Color Syntax Highlighting*
 - *Object Management - Import/Export, Browser, Edit*
 - *Connection Management - Wizard, SSH Tunnel*
 - *Multi-Pane Results View, In-grid data edits*
- **Database Administration**
 - *Status, Configuration, Start/Stop, Replication*
 - *Users, Security, Session Management*
 - *Import/Export Dump Files*
- **Data Modelling**
 - *Visual Design*
 - *Forward/Reverse Engineer*



MySQL Training and Certification



- Public and Private Courses
 - Customized Solutions
 - Live Virtual Training via web
 - Delivery Available Globally
- Role Based Curriculum
 - DBA & Developer
 - Hands-On Labs
- Advanced Topic Courses
 - Performance Tuning, High Availability
- Industry Recognized Certifications
 - DBA, Developer, Cluster
- World Class Instructors and Materials
 - Authorized Training from “the Source”
- Learn More at oracle.com/education/mysql

MySQL Editions: Features

Features	New MySQL Editions		
	Standard SE	Enterprise EE	Cluster CGE
MySQL Database	✓	✓	✓
MySQL Connectors	✓	✓	✓
MySQL Replication	✓	✓	✓
MySQL Partitioning		✓	✓
MySQL Workbench SE	✓	✓	✓
Storage Engine: MyISAM	✓	✓	✓
Storage Engine: InnoDB	✓	✓	✓
Storage Engine: NDB			✓
MySQL Enterprise Monitor		✓	✓
MySQL Enterprise Backup		✓	✓
MySQL Cluster Manager			✓
MySQL Cluster Geo-Replication			✓



Only available in select Commercial Editions

MySQL Support: Features

Features	MySQL Lifetime Support		
	Premier (Years 1-5)	Extended (Years 6-8)	Sustain (Years 9+)
24x7 Support	✓	✓	✓
Unlimited Support Incidents	✓	✓	✓
Knowledge Base	✓	✓	✓
Maintenance Releases, Bug Fixes, Patches, Updates	✓	✓	Pre-Existing only
MySQL Consultative Support	✓	✓	✓

- **Support is based on LifeCycle (Years since product GA)**
 - Years 1-5: Premier Support
 - Years 6-8: Extended Support
 - Years 9+: Sustaining Support

MySQL Pricing: Subscriptions

Product	Per Server (1-4 Sockets)	Per Server (5+ Sockets)
	Subscription (Per Year)	Subscription (Per Year)
MySQL Standard Edition	\$2,000	\$4,000
MySQL Enterprise Edition	\$5,000	\$10,000
MySQL Cluster CGE	\$10,000	\$20,000

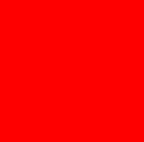
- **Subscriptions (SE, EE and CGE)**

- Includes Commercial Term License, Support, Software, Maintenance, Fixes, Updates
- End-users must use Subscriptions for SE, EE, CGE

- **Metric: Server (Two Server Sizes)**

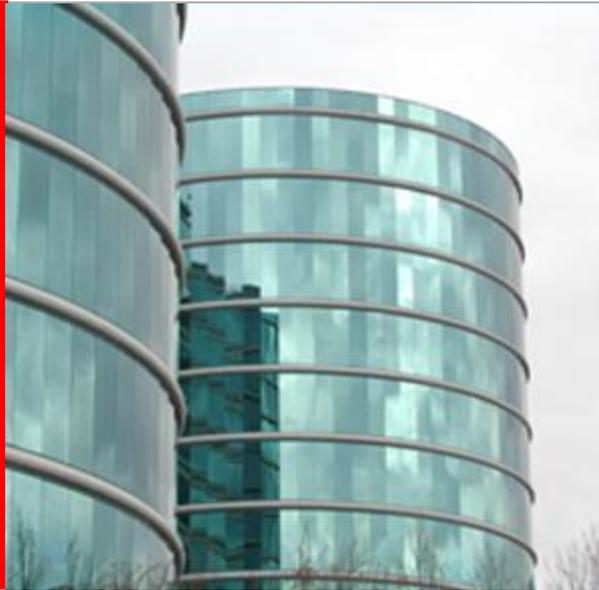
- Commodity Server: 1-4 Sockets (most popular for MySQL deployments)
- Big Server: 5+ Sockets

ISVs/OEMs/VARs: For pricing contact the MySQL Embedded Sales Team



The preceding is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

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