



MySQL Strategy

Morten Andersen, MySQL Enterprise Sales

Safe Harbor Statement

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.

Nearly 5 Years of Oracle Stewardship

More Investment, More Innovation

2x Engineering Staff

3x QA Staff

2x Support Staff



Jan 2010



Sept 2014

Driving MySQL Innovation: 2010 - 2014

MySQL Enterprise Monitor 2.2

MySQL Cluster 7.1

MySQL Cluster Manager 1.0

MySQL Workbench 5.2

MySQL Database 5.5

MySQL Enterprise Backup 3.5

MySQL Enterprise Monitor 2.3

MySQL Cluster Manager 1.1

MySQL Enterprise Backup 3.7

All GA!

Partial List of Releases Delivered

Oracle Products Certifications

MySQL Windows Installer

MySQL Enterprise Security

MySQL Enterprise Scalability

MySQL Enterprise Audit

MySQL Cluster 7.2

MySQL Cluster Manager 1.3

MySQL Utilities

MySQL Workbench 6.0

All GA!

*Development Milestone Release

MySQL Windows Tools

MySQL Database 5.6

MySQL Cluster 7.3

MySQL Enterprise Monitor 3.0

MySQL Workbench 6.1

MySQL Enterprise Backup 3.11

MySQL Fabric

MySQL Workbench 6.2

All GA!

MySQL Database 5.7 DMRs*

MySQL Cluster 7.4 DMR

Available Now!

Best Choice for Next Generation Web & Cloud Applications

Strong MySQL Momentum



World's Most Popular Open Source Database



Leading Open Source Database for Web Applications



#1 Open Source Database in the Cloud



Integrated with Hadoop in Big Data Platforms

A high-speed photograph of a dolphin leaping from the surface of the ocean. The dolphin is captured mid-air, its body arched as it moves from the bottom right towards the top left. The water around the dolphin is splashing and creating white foam, contrasting with the deep blue of the surrounding sea. The dolphin's skin is dark and glistening with water droplets.

Why MySQL Enterprise Edition?

MySQL Enterprise Edition : Agenda

- 1 Why MySQL Enterprise?
- 2 Management Tools
- 3 Advanced Features
- 4 Technical Support & Certifications

Why MySQL Enterprise Edition?

In Addition to all the MySQL Features you Love



Insure Your Deployments



Get the Best Results



Delight Customers



MySQL Enterprise Edition



Advanced Features

- Scalability
- High Availability
- Security
- Audit
- Encryption



Management Tools

- Monitoring
- Backup
- Development
- Administration
- Migration



Support

- Technical Support
- Consultative Support
- Oracle Certifications

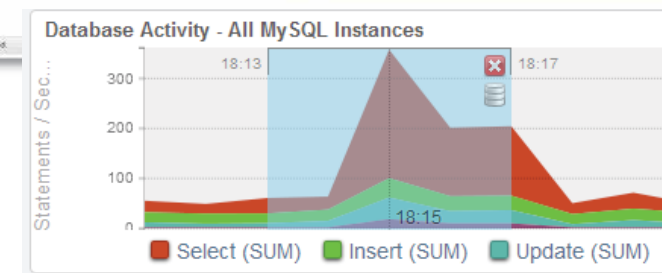
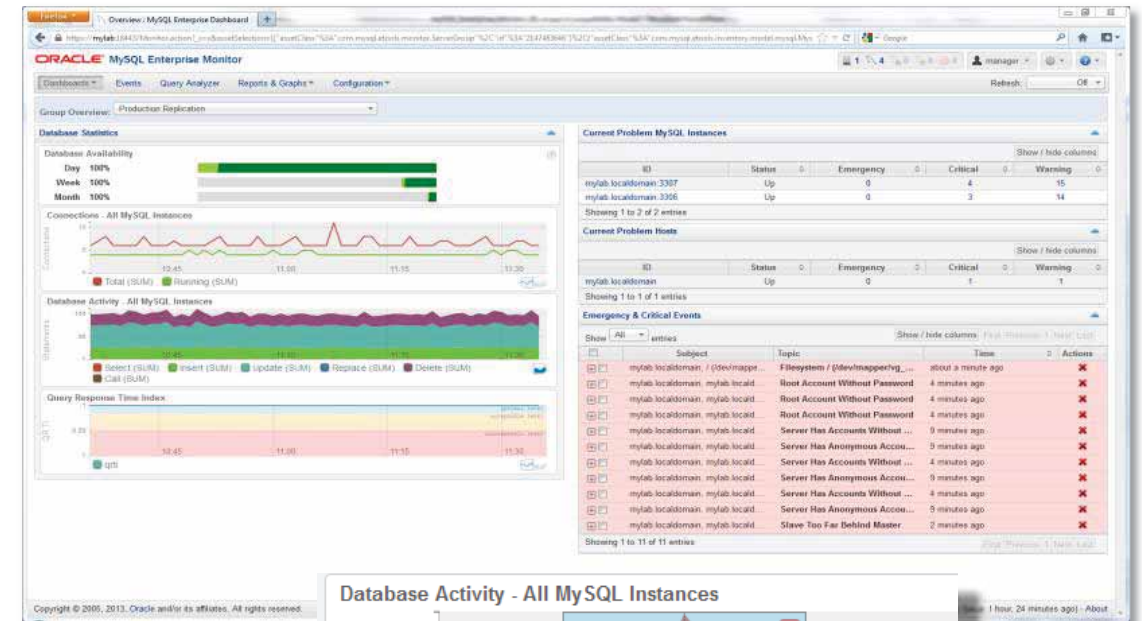


A photograph of a dolphin leaping from the water, creating a large splash. The dolphin is dark grey and is captured in mid-air, with its body arched. The water is a deep blue, and the background is a lighter blue sky. The dolphin's reflection is visible in the water below.

MySQL Enterprise Edition: Management Tools

MySQL Enterprise Monitor

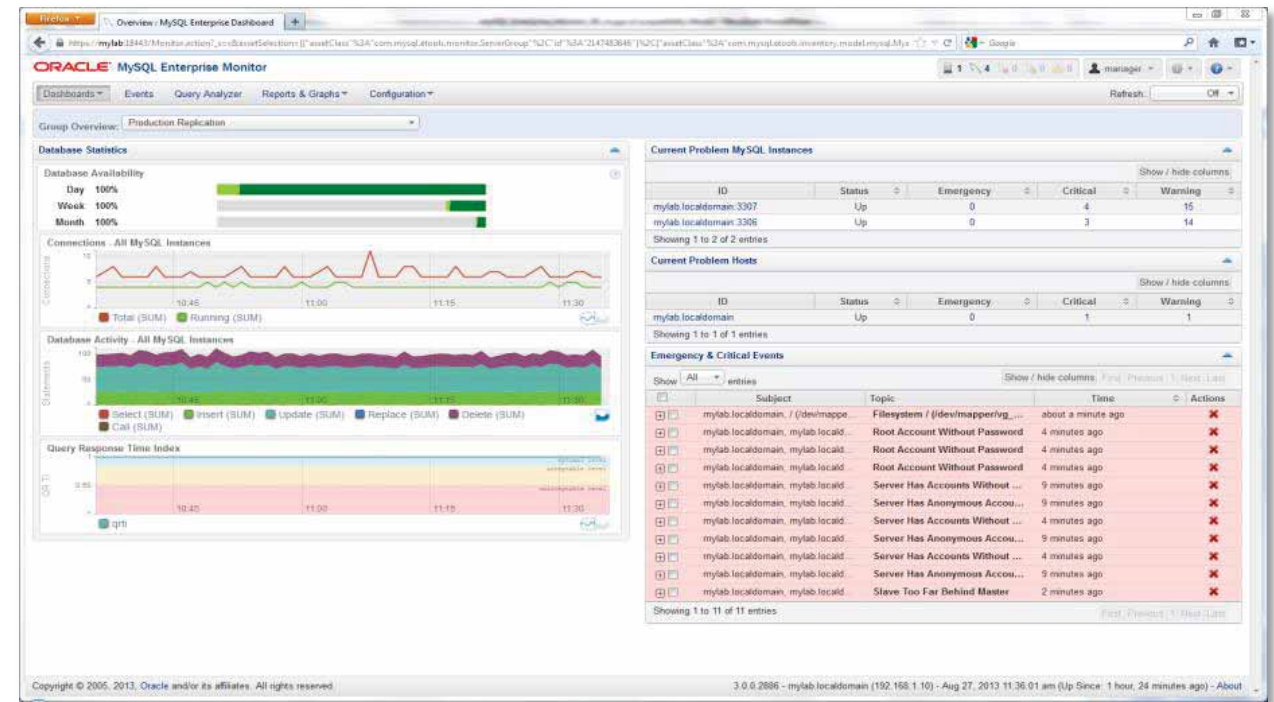
- Start monitoring MySQL in 10 minutes
- Real-time MySQL performance and availability monitoring
- Visually find & fix problem queries
- Disk monitoring for capacity planning
- Cloud friendly architecture
 - No agents required
- Optional agent option provides advanced Host/OS monitoring



	Current	Worst	Subject	Topic
<input type="checkbox"/>	!	!	mylab.localdomain, mylab.localdomain:3306	Root Account Without Password
<input type="checkbox"/>	!	!	mylab.localdomain, mylab.localdomain:3306	Server Has Accounts Without A Password
<input type="checkbox"/>	✓	!	mylab.localdomain, mylab.localdomain:3306	Average Statement Execution Time Excess...
<input type="checkbox"/>	✓	!	mylab.localdomain, mylab.localdomain:3306	SQL Statement Generates Errors or Warnings
<input type="checkbox"/>	!	!	mylab.localdomain, mylab.localdomain:3306	Server Has Anonymous Accounts
<input type="checkbox"/>	✓	!	mylab.localdomain, mylab.localdomain:3306	MySQL Instance Is Experiencing A Query P...
<input type="checkbox"/>	⚠	⚠	mylab.localdomain, mylab.localdomain:3306	InnoDB Log Buffer Flushed To Disk After Ea...
<input type="checkbox"/>	⚠	⚠	mylab.localdomain, mylab.localdomain:3306	User Has Rights To Database That Does Not...

Enterprise Monitor Dashboard

- SLA monitoring
- Real-time performance monitoring
- Alerts & notifications
- MySQL best practice advisors



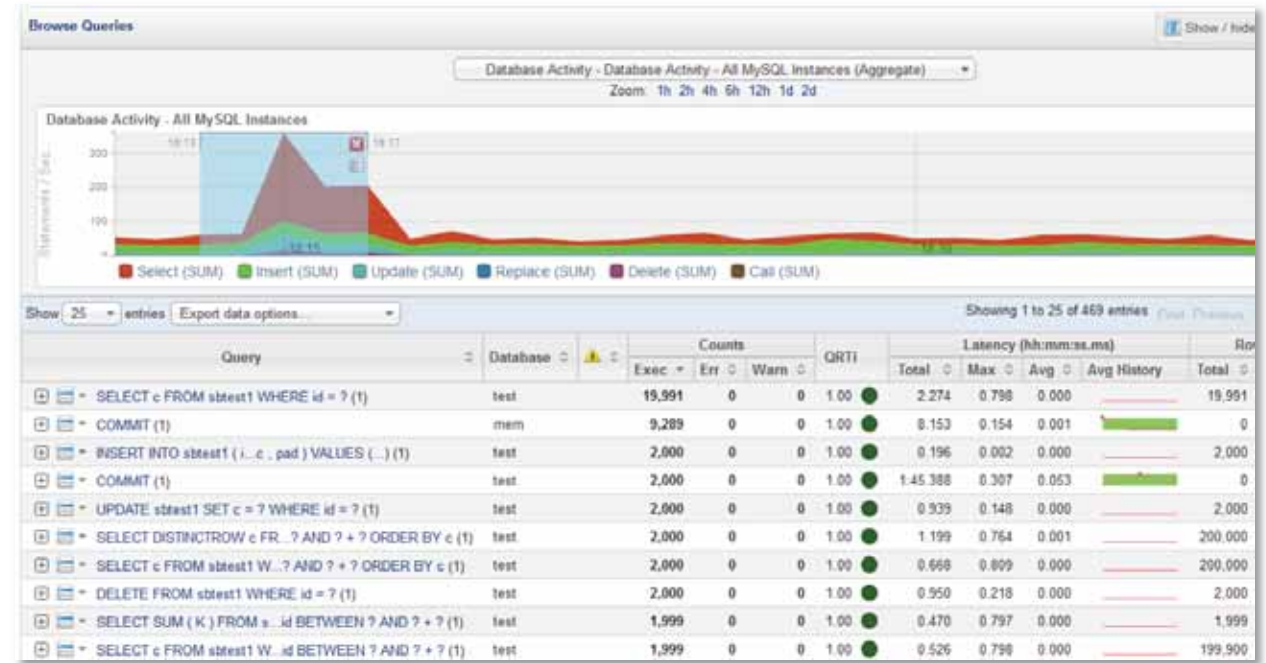
"The MySQL Enterprise Monitor is an absolute must for any DBA who takes his work seriously."

- Adrian Baumann, System Specialist
Federal Office of Information Technology &
Telecommunications



Enterprise Query Analyzer

- Real-time query performance
- Visual correlation graphs
- Find & fix expensive queries
- Detailed query statistics
- Query Response Time index (QRTi)
 - “Quality of Service” (QoS) measurement for each query
 - QoS measurement for a server, group, or every instance
 - Single metric for query performance



“With the MySQL Query Analyzer, we were able to identify and analyze problematic SQL code, and triple our database performance. More importantly, we were able to accomplish this in three days, rather than taking weeks.”

Keith Souhrada
Software Development Engineer
Big Fish Games

Enterprise Replication Monitor

- Auto-discovers replication topology
- Master/Slave performance monitoring
- Replication advisor
- Best practice replication advice

"I use the MySQL Enterprise Monitor every day to monitor and keep tabs on our MySQL databases. Quick one stop shopping for keeping tabs on them."

-Wes Homer,
Sr System and Network Administrator



Replication Monitoring										
Servers	Type	Threads		Time Behind	Binary Logs		Master Position		Log Space	
		IO	SQL		Current File	Position	Binary Log	Position	Binary Logs	Relay Logs
Replication 1 (4)	MIXED	✓	✓							
mylab.localdomain:3306	master/slave	✓	✓	00:00:00	mylab-bin.000001	791	mylab-bin.000001	791	791 B	1.1 KB
mylab.localdomain:3307	master/slave	✓	✓	00:00:00	mylab-bin.000001	791	mylab-bin.000001	791	791 B	1.1 KB
mylab.localdomain:3308	master/slave	✓	✓	00:00:00	mylab-bin.000001	986	mylab-bin.000001	791	0.96 KB	1.1 KB
MLORD-PC:3306	slave	✓	✓	00:00:00			mylab-bin.000001	986		1.29 KB

Best Practice Advisors

- Enforce MySQL best practices
- 14 Advisor categories
- 250+ Advisors
- Threshold-based alerts
 - Exponential moving averages
 - Rate change detection
- Expert problem resolution advice



Advisors			
 Edit Selected Advisors	 Disable Selected Advisors	 Create Advisor	 Import/Export
Administration	Configured: 26 of 26		
Agent	Configured: 3 of 3		
Availability	Configured: 6 of 6		
Backup	Configured: 5 of 5		
Cluster	Configured: 10 of 10		
Graphing	Configured: 87 of 87		
Memory Usage	Configured: 6 of 6		
Monitoring and Support Services	Configured: 5 of 5		
Operating System	Configured: 5 of 5		
Performance	Configured: 23 of 23		
Query Analysis	Configured: 4 of 4		
Replication	Configured: 13 of 13		
Schema	Configured: 17 of 17		
Security	Configured: 26 of 26		

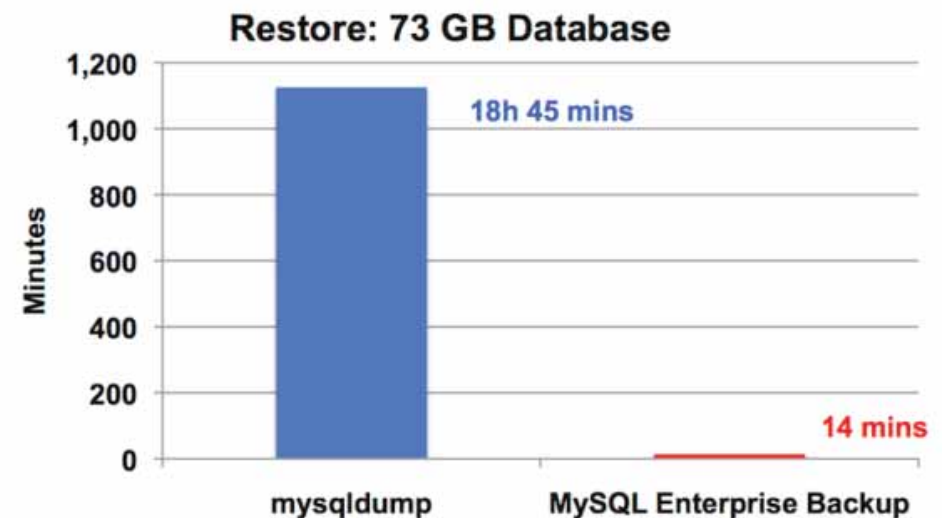
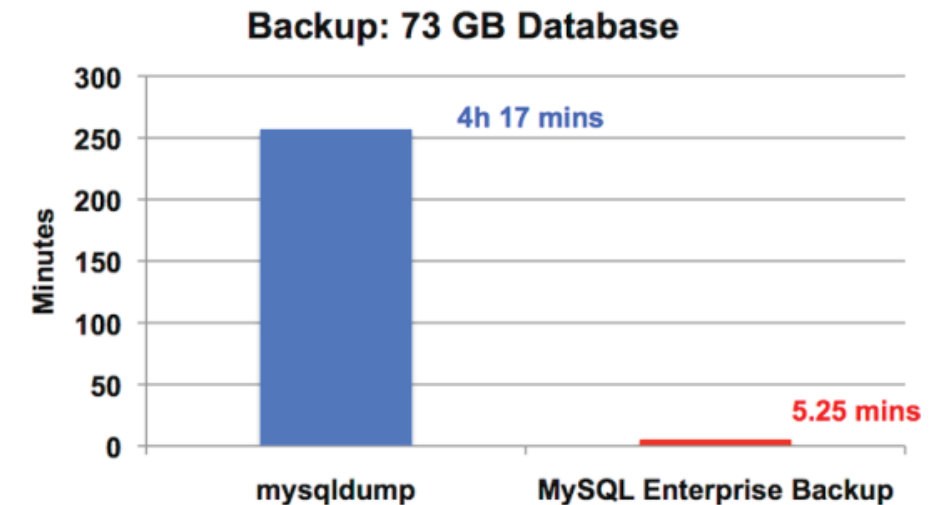
"I definitely recommend the MySQL Enterprise Monitor to DBAs who don't have a ton of MySQL experience. It makes monitoring MySQL security, performance and availability very easy to understand and to act on."

Sandi Barr
Sr. Software Engineer
Schneider Electric



MySQL Enterprise Backup

- Online, non-locking backup and recovery
 - Complete MySQL instance backup (data and config)
 - Partial backup and restore
- Direct Cloud storage backups (S3, etc.)
- Incremental backups
- Point-in-time recovery
- Advanced compressed and encryption
- Backup to tape (SBT)
- Backup validation
- Optimistic backups
- Cross-Platform (Windows, Linux, Unix)



MySQL Enterprise Monitor + Backup

- Monitor backup results
- Monitor backup performance
- Ensure backups are up to date

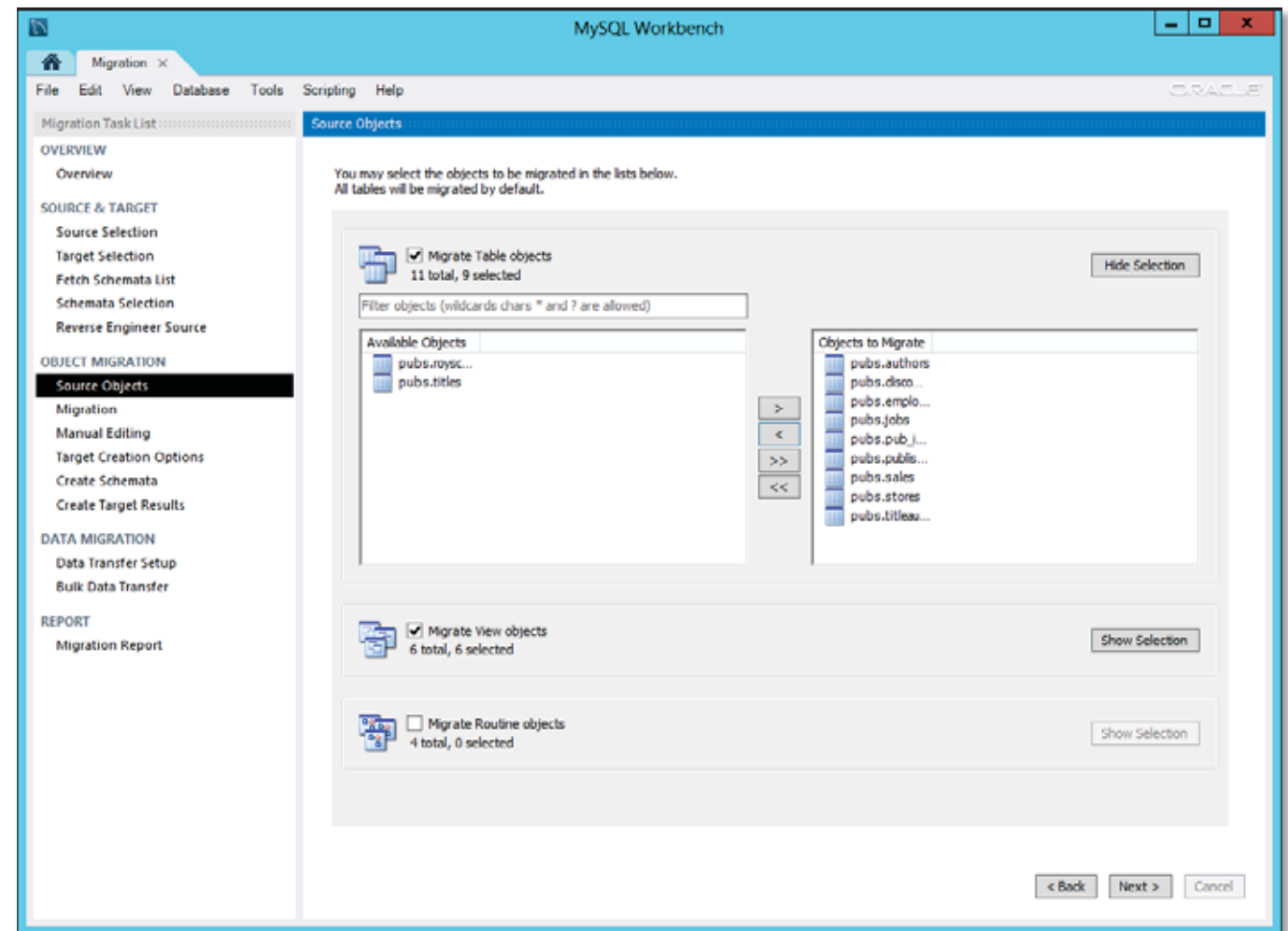
The screenshot displays the Oracle MySQL Enterprise Monitor interface. At the top, there are navigation tabs: Dashboards, Events, Query Analyzer, Reports & Graphs, and Configuration. Below this, the 'Advisors' section is active, showing a summary of configured items: Administration (26 of 26), Agent (3 of 3), Availability (6 of 6), and Backup (5 of 5). A table below lists specific backup events with columns for Item, Info, Coverage, Schedule, Event Handling, and a status indicator.

Item	Info	Coverage	Schedule	Event Handling	
MySQL Enterprise Backup Failed	?	100% (1/1)	5m	0 0 0	"FAILURE"
MySQL Enterprise Backup Succeeded	?	100% (1/1)	5m	1 0 0	"SUCCESS"
Last Full MySQL Enterprise Backup Too Old	?	100% (1/1)	6h	1 0 0	7
Incremental MySQL Enterprise Backups Not Enabled	?	100% (1/1)	6h	1 0 0	0
MySQL Enterprise Backup Lock Time Excessive	?	100% (1/1)	5m	0 0 0	10 60

MySQL Workbench EE

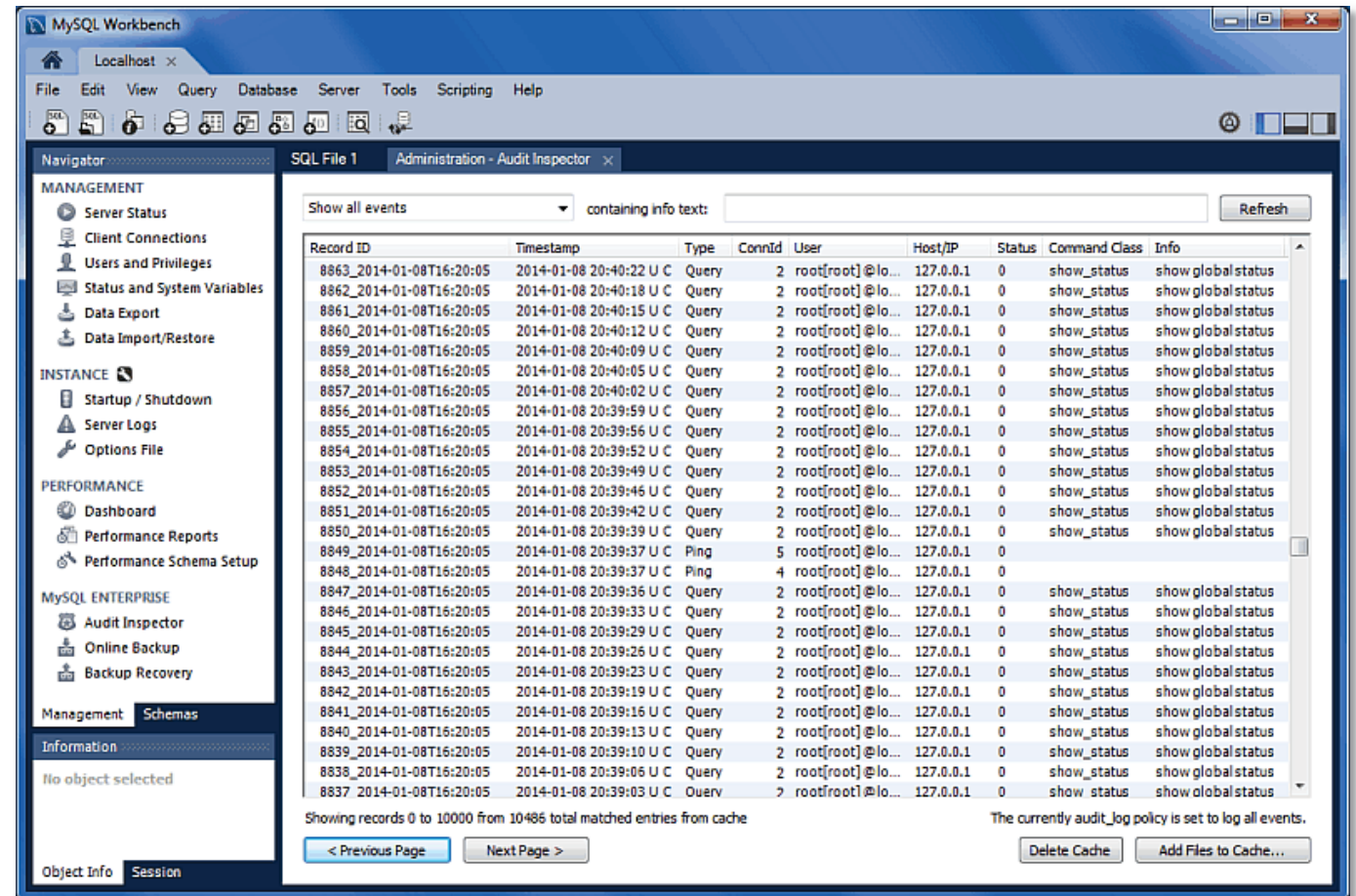
- Database migrations
 - From Microsoft SQL Server, PostgreSQL, Sybase ASE, Sybase SQL Anywhere, SQLite, Microsoft Access, and more
- Manage migration projects
- Source and target selection
- Object migration
- Data migration
- MySQL version upgrades

New! Database Migration Wizard
for SQL Server, Sybase, SQLite, SQL Anywhere & PostgreSQL



MySQL Workbench EE + Audit

- Fast and easy access to Audit events
- Indexed searches
 - Event type
 - User account
 - Date range
 - Text match



The screenshot shows the MySQL Workbench EE interface with the Audit Inspector tool open. The left sidebar contains navigation options for MANAGEMENT, INSTANCE, PERFORMANCE, and MySQL ENTERPRISE. The main window displays a table of audit events with columns for Record ID, Timestamp, Type, ConnId, User, Host/IP, Status, Command Class, and Info. The table shows a list of events, primarily 'Query' events from user 'root' at '127.0.0.1', with 'show_status' as the command class. The status for all events is '0'. At the bottom, there are navigation buttons for '< Previous Page', 'Next Page >', 'Delete Cache', and 'Add Files to Cache...'. A status bar at the bottom right indicates 'Showing records 0 to 10000 from 10486 total matched entries from cache' and 'The currently audit_log policy is set to log all events.'

Record ID	Timestamp	Type	ConnId	User	Host/IP	Status	Command Class	Info
8863_2014-01-08T16:20:05	2014-01-08 20:40:22 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8862_2014-01-08T16:20:05	2014-01-08 20:40:18 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8861_2014-01-08T16:20:05	2014-01-08 20:40:15 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8860_2014-01-08T16:20:05	2014-01-08 20:40:12 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8859_2014-01-08T16:20:05	2014-01-08 20:40:09 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8858_2014-01-08T16:20:05	2014-01-08 20:40:05 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8857_2014-01-08T16:20:05	2014-01-08 20:40:02 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8856_2014-01-08T16:20:05	2014-01-08 20:39:59 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8855_2014-01-08T16:20:05	2014-01-08 20:39:56 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8854_2014-01-08T16:20:05	2014-01-08 20:39:52 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8853_2014-01-08T16:20:05	2014-01-08 20:39:49 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8852_2014-01-08T16:20:05	2014-01-08 20:39:46 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8851_2014-01-08T16:20:05	2014-01-08 20:39:42 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8850_2014-01-08T16:20:05	2014-01-08 20:39:39 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8849_2014-01-08T16:20:05	2014-01-08 20:39:37 U C	Ping	5	root[root]@lo...	127.0.0.1	0		
8848_2014-01-08T16:20:05	2014-01-08 20:39:37 U C	Ping	4	root[root]@lo...	127.0.0.1	0		
8847_2014-01-08T16:20:05	2014-01-08 20:39:36 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8846_2014-01-08T16:20:05	2014-01-08 20:39:33 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8845_2014-01-08T16:20:05	2014-01-08 20:39:29 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8844_2014-01-08T16:20:05	2014-01-08 20:39:26 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8843_2014-01-08T16:20:05	2014-01-08 20:39:23 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8842_2014-01-08T16:20:05	2014-01-08 20:39:19 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8841_2014-01-08T16:20:05	2014-01-08 20:39:16 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8840_2014-01-08T16:20:05	2014-01-08 20:39:13 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8839_2014-01-08T16:20:05	2014-01-08 20:39:10 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8838_2014-01-08T16:20:05	2014-01-08 20:39:06 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status
8837_2014-01-08T16:20:05	2014-01-08 20:39:03 U C	Query	2	root[root]@lo...	127.0.0.1	0	show_status	show global status

MySQL Workbench EE + Backup

- Create and manage backup jobs
 - Create new backup jobs
 - Schedule backup jobs to run automatically
 - View current backup jobs
 - View recent backup activity
- Restore backups
 - Full, partial, incremental ...

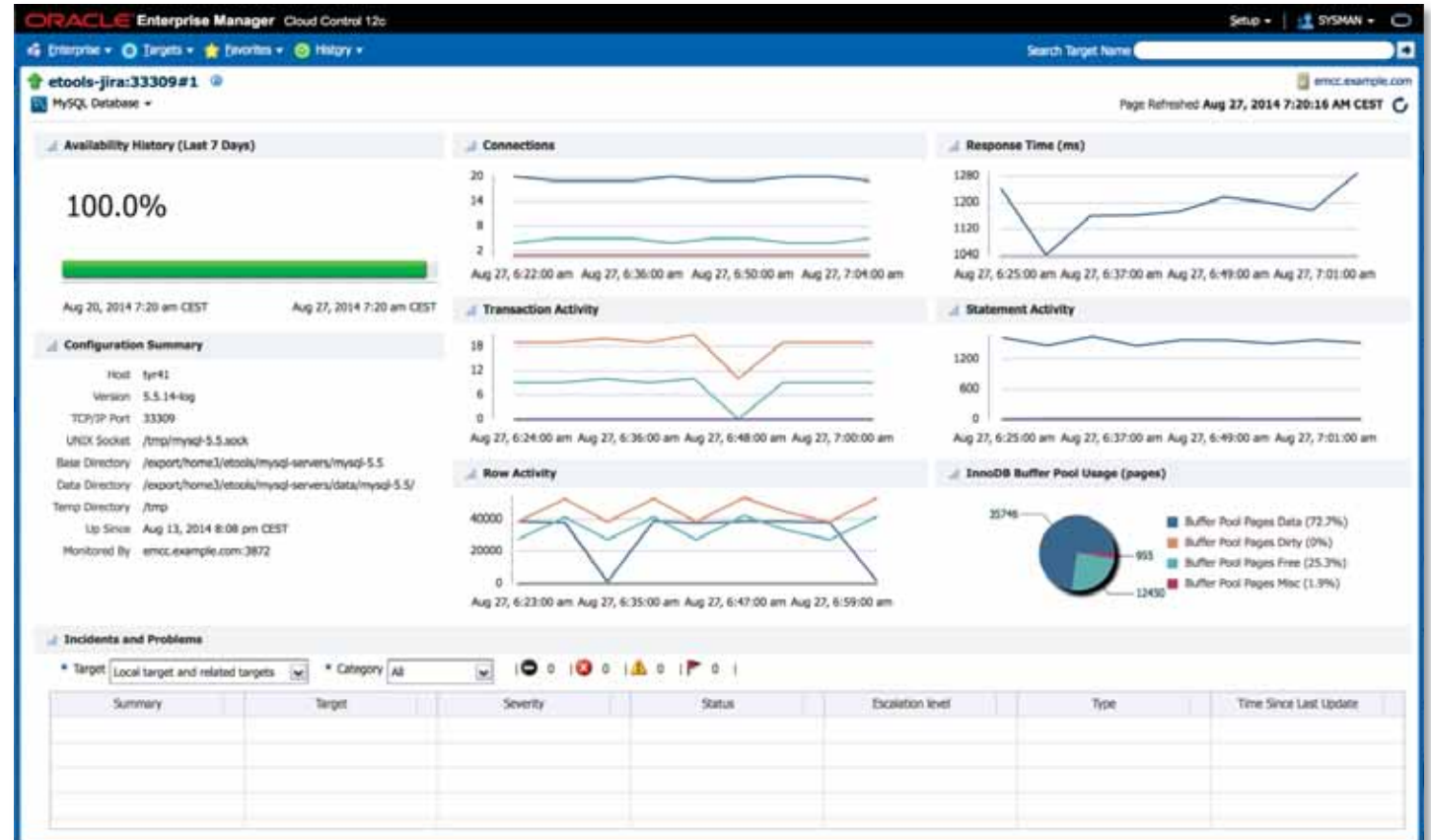
The screenshot displays the MySQL Enterprise Backup configuration interface. The left sidebar contains navigation options: MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), PERFORMANCE (Dashboard, Performance Reports, Instrumentation), INSTANCE (Startup / Shutdown, Server Logs, Options File), and MySQL ENTERPRISE (Audit Inspector, Online Backup, Backup Recovery). The main area shows 'Backup Jobs configured for this MySQL Instance' with a table of jobs and their statuses. A 'Backup Job Details' panel on the right provides specific configuration for the selected job. Below the jobs table are buttons for 'New Job' and 'Configure Job'. A status message indicates a full backup is in progress, with a 'View Log...' button. At the bottom, a 'Recent Activity' table shows the history of backup operations.

Backup Job	Latest Backup	Next Full Backup	Next Incr. Backup	Configuration Status
Full (full data)	in the last hour	2014-01-09 17:24:00	not scheduled	✓
backupsinc (full data)	in the last hour	not scheduled	2014-01-09 18:00:00	✓
TestingWorld (partia...	in the last hour	not scheduled	not scheduled	✓

Job	Type	Format	Status	Start Time	End Time	Total Time
Full	FULL	DIRECTORY	✓ SUCCESS	2014-01-09 17:10:52	2014-01-09 17:11:38	1min 26s
Full	FULL	DIRECTORY	✓ SUCCESS	2014-01-09 17:09:49	2014-01-09 17:10:38	1min 25s
TestingWorld	INCREMENTAL	DIRECTORY	✓ SUCCESS	2014-01-09 17:08:56	2014-01-09 17:09:12	56s
TestingWorld	PARTIAL	DIRECTORY	✓ SUCCESS	2014-01-09 17:08:06	2014-01-09 17:08:28	22s
Full	FULL	DIRECTORY	✓ SUCCESS	2014-01-09 17:07:25	2014-01-09 17:07:46	21s
backupsinc	INCREMENTAL	DIRECTORY	✓ SUCCESS	2014-01-09 17:06:01	2014-01-09 17:06:21	20s
backupsinc	FULL	DIRECTORY	✓ SUCCESS	2014-01-09 16:25:12	2014-01-09 16:25:47	35s

Oracle Enterprise Manager for MySQL

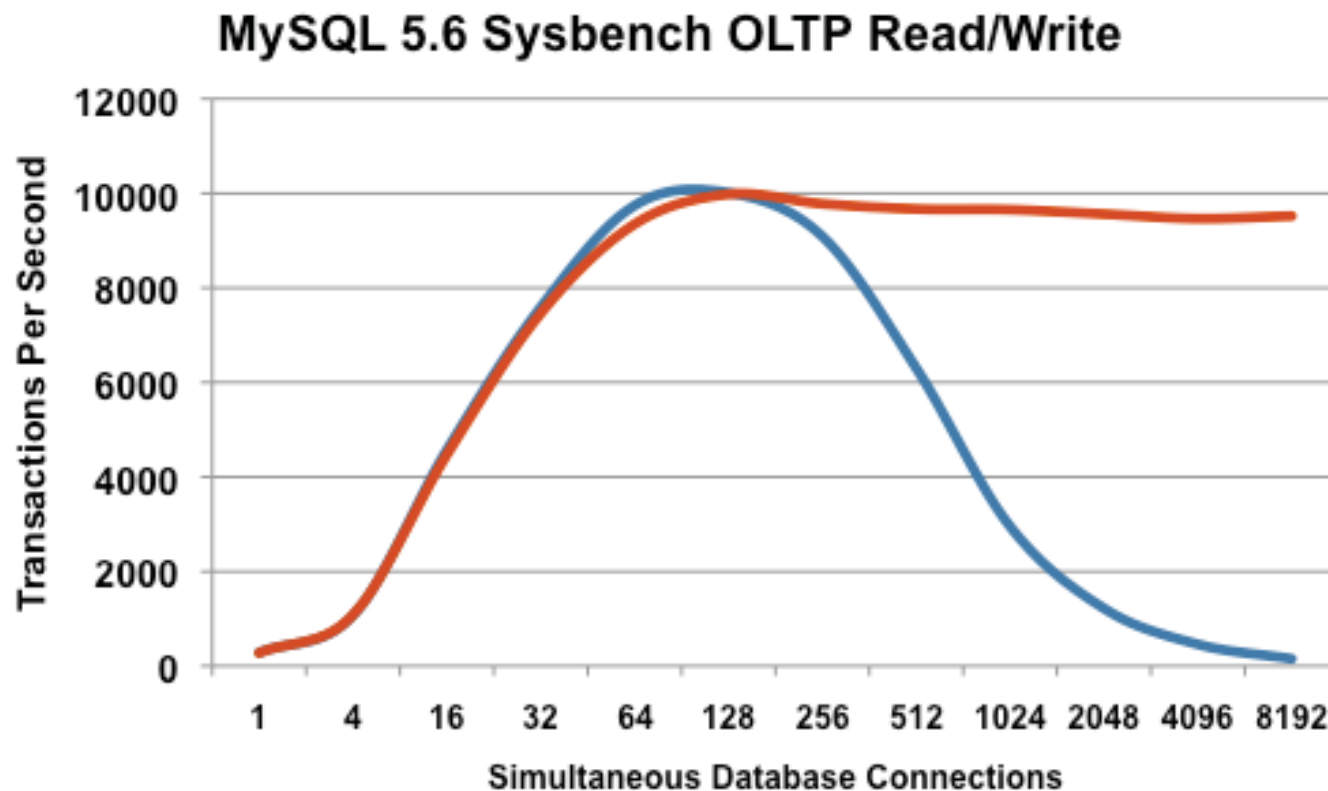
- Availability monitoring
- Performance monitoring
- Configuration monitoring
- All available metrics collected
 - Allowing for custom threshold based incident reports
- MySQL auto-detection



A high-speed photograph of a dolphin leaping from the water. The dolphin is captured mid-air, its body arched as it moves from the bottom right towards the top left. The water around the dolphin is splashing and creating white foam, contrasting with the deep blue of the surrounding ocean. The dolphin's skin is dark and glistening with water droplets.

MySQL Enterprise Edition: Advanced Features

MySQL Enterprise Scalability : Thread Pool



- Provides 20x better scalability
- Plugin improves sustained performance as user connections grow

MySQL Enterprise **Security**

- SSL enabled communication
- Access control
 - Enterprise authentication (PAM, Windows, LDAP, etc.)
 - Proxy users
- Auditing and monitoring
 - MySQL security advisors
 - Oracle Audit Vault
- Oracle Database Firewall



MySQL Enterprise Encryption

- MySQL encryption libraries
 - Symmetric encryption AES256
 - Public-key / asymmetric cryptography
- Key management
 - Generate public and private keys
 - Key exchange methods: RSA, DSA, DH
- Sign and verify data
 - Cryptographic hashing for digital signing, verification, & validation



MySQL Enterprise **Audit**

- Out-of-the-box logging of connections, logins, and query
- User defined policies for filtering, and log rotation
- Dynamically enabled, disabled: no server restart
- XML-based audit stream per Oracle Audit Vault spec

Adds regulatory compliance to MySQL applications (HIPAA, Sarbanes-Oxley, PCI, etc.)

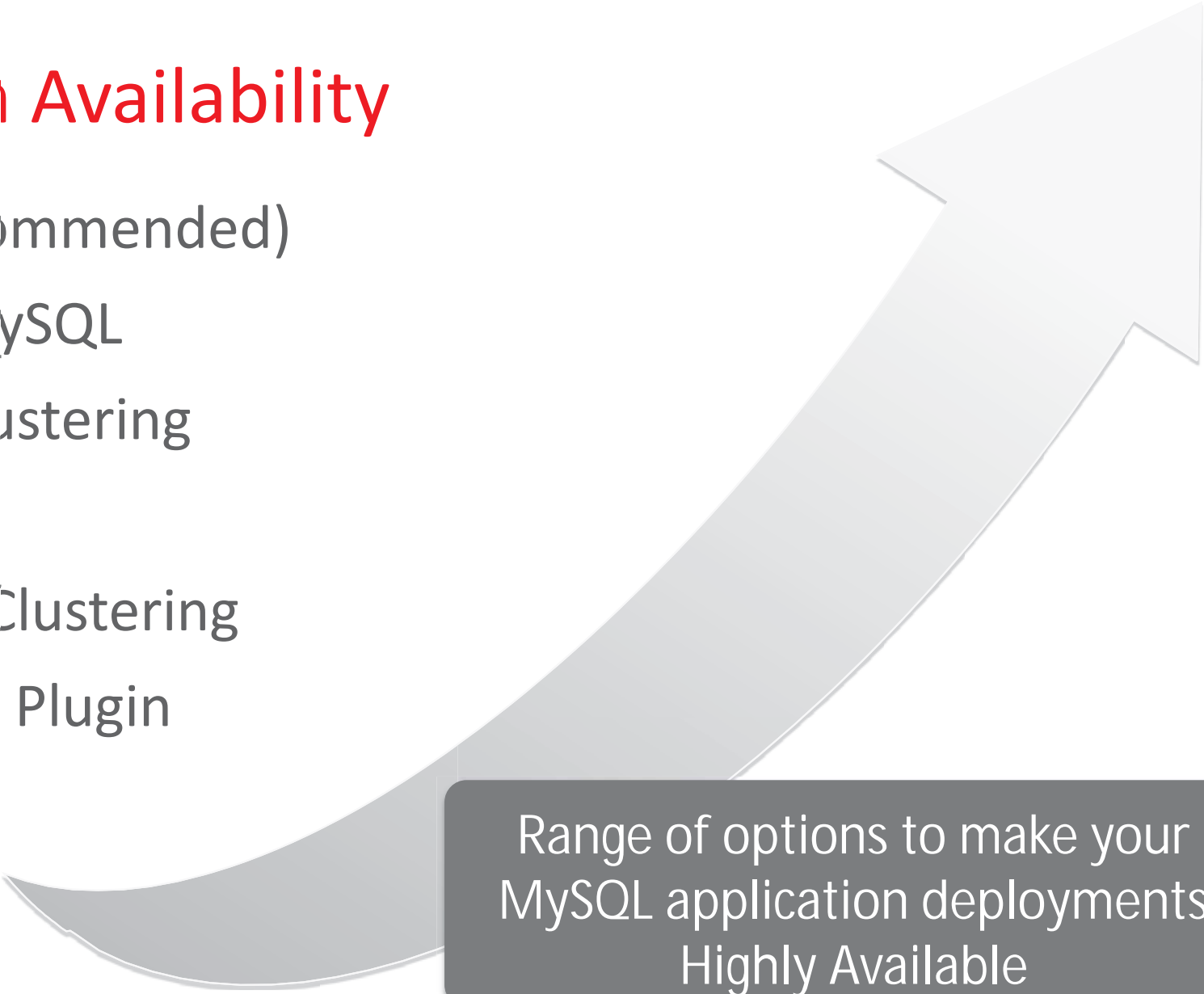
MySQL Enterprise **Authentication**

- PAM (Pluggable Authentication Modules)
 - Access external authentication methods
 - Standard interface (Unix, LDAP, Kerberos, others)
 - Proxied and non-proxied users
- Windows
 - Access native Windows services
 - Authenticate users already logged into Windows (Windows Active Directory)
- Pluggable Authentication API

Integrates MySQL with existing security infrastructures and SOPs

MySQL Enterprise **High Availability**

- HA with MySQL Fabric (recommended)
- Oracle VM Templates for MySQL
- HA with DRBD and Linux Clustering
- HA with Solaris Clustering
- HA with Windows Failover Clustering
- HA with Oracle Clusterware Plugin



Range of options to make your
MySQL application deployments
Highly Available

A photograph of a dolphin leaping from the water, creating a splash. The dolphin is dark grey and is captured in mid-air, with its body arched. The water is a deep blue, and the background is a lighter blue sky. The dolphin's reflection is visible in the water below.

Technical Support & MySQL Enterprise Oracle Certifications

MySQL Enterprise **Support**

- Largest MySQL engineering and support organization
- Backed by the MySQL developers
- World-class support, in 29 languages
- Hot fixes & maintenance releases
- 24x7x365
- Unlimited incidents
- Consultative support
- Global scale and reach

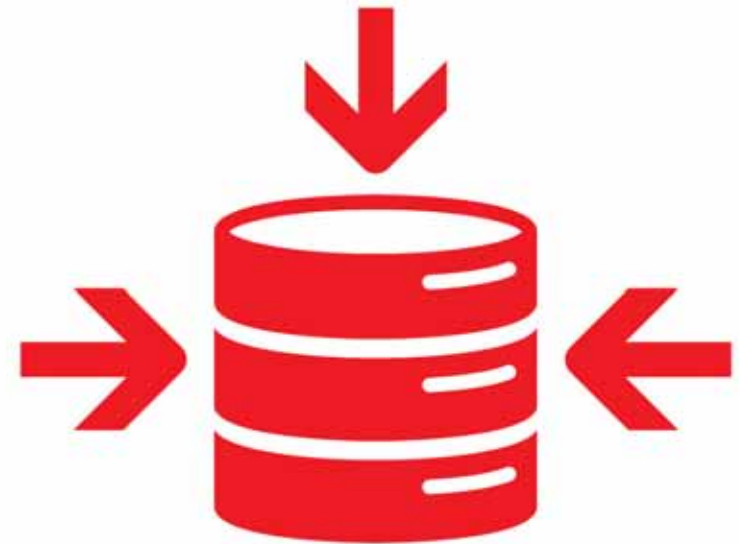


Get immediate help for any MySQL issue, plus expert advice

MySQL Consultative Support

Make the Most of your Deployments

- Remote troubleshooting
- Replication review
- Partitioning review
- Schema review
- Query review
- Performance tuning
- ...and more



Work Directly with MySQL Engineering

- A direct relationship with the MySQL team
- The ability to participate in:
 - Product roadmaps
 - Product betas
 - Customer advisory boards
- Work closely with Support Engineers
 - Resolve issues faster
 - Request bug and feature request escalations



MySQL Enterprise Oracle Certifications

- Oracle Enterprise Manager for MySQL
- Oracle Linux (w/DRBD stack)
- Oracle VM
- Oracle Solaris
- Oracle Solaris Clustering
- Oracle Clusterware
- My Oracle Support
- Oracle Fusion Middleware
- Oracle GoldenGate
- Oracle Audit Vault
- Oracle Database Firewall
- Oracle Secure Backup



MySQL integrates into your Oracle environment

Get Started Today!

MySQL Enterprise Edition Trial



<http://www.mysql.com/trials/>

Contact a MySQL Sales Rep



<http://www.mysql.com/about/contact/>

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