

Zmanda Recovery Manager for MySQL

Zero-Downtime MySQL Backups

<http://www.zmanda.com/>



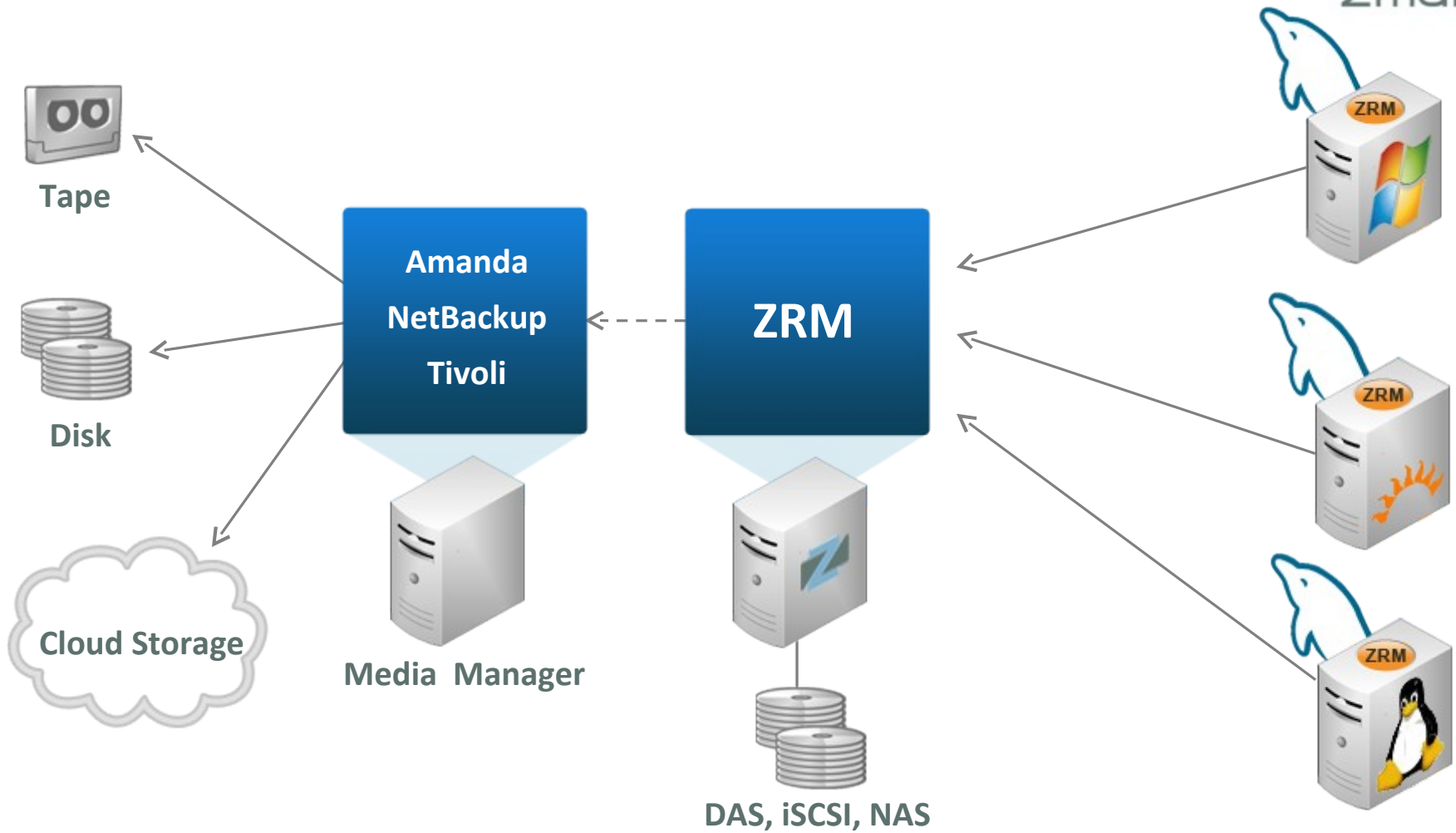
- **Worldwide Leader in Open Source Backup**
 - **1,000,000+ Protected Systems**
- **Open Source, Open APIs, Open Formats**
 - **Smashes traditional backup business model**
- **MySQL Backup Specialist**
 - **Zmanda Recovery Manager for MySQL**
 - **Zmanda Cloud Backup**

Top 5 MySQL Backup Requirements



- **Backup live database with minimal impact on application and users**
- **Versatile**
 - Scale Out = Multitude of servers
 - Scale up = Large Databases with no increase in lock times
 - Backup of local or remote MySQL servers
- **Intelligent Recovery**
 - Precise restore to a particular point-in-time or database event
 - Fast restore in case of failure
- **Global Enterprise Management**
 - Manage all databases from a single entity
 - Backup automation from scheduling, monitoring to reporting
- **Easy to Use and Secure**

Zmanda Recovery Manager (ZRM) for MySQL



Zmanda Recovery Manager (ZRM) for MySQL



- Centralized backup and recovery of multiple MySQL servers
 - Schedule full, differential and incremental backups of MySQL databases
- Perform backup that is the best match for storage engine being used and for specific MySQL configuration
- Extensive Monitoring and Reporting
 - Get e-mail or RSS notification about status of backups
- Enforcement of site or application specific backup policies
- Recover database easily to a required point in time or to any particular database event
- Open backup image formats
- Backup compression and encryption

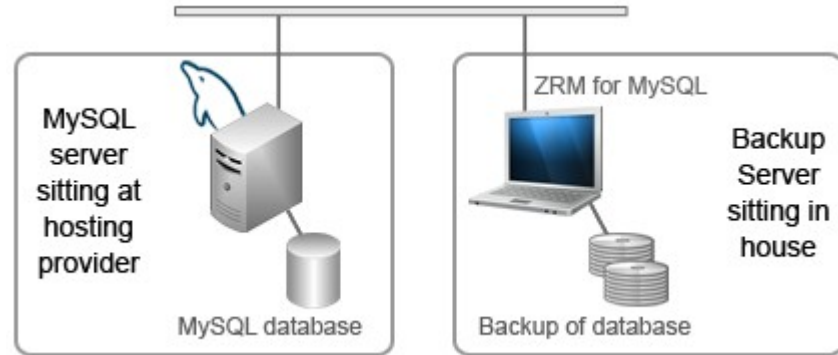
Zmanda Recovery Manager for MySQL



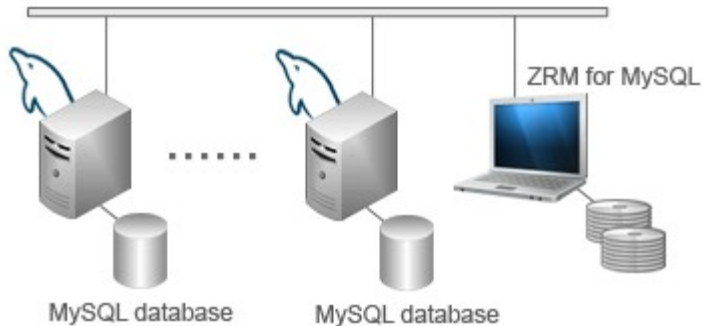
ZRM local to MySQL



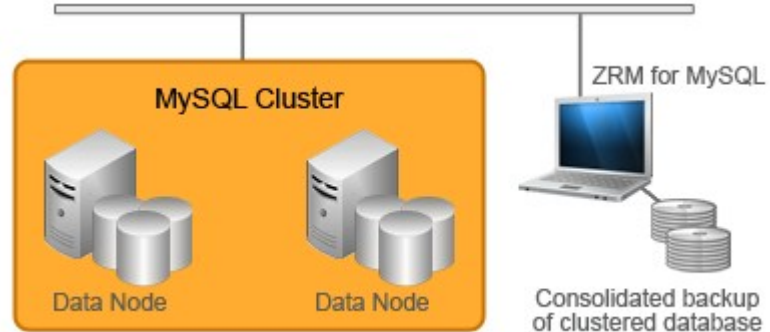
ZRM remote to MySQL



Enterprise-wide MySQL backup



ZRM to MySQL Cluster



ZRM for MySQL backup methods

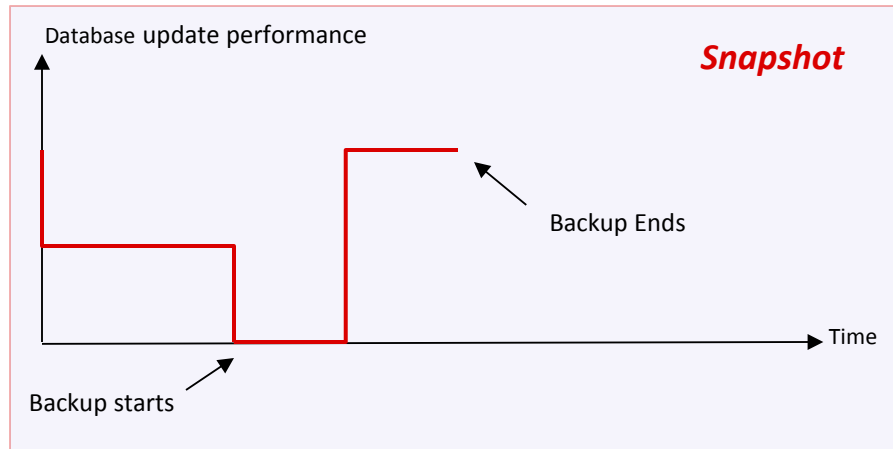
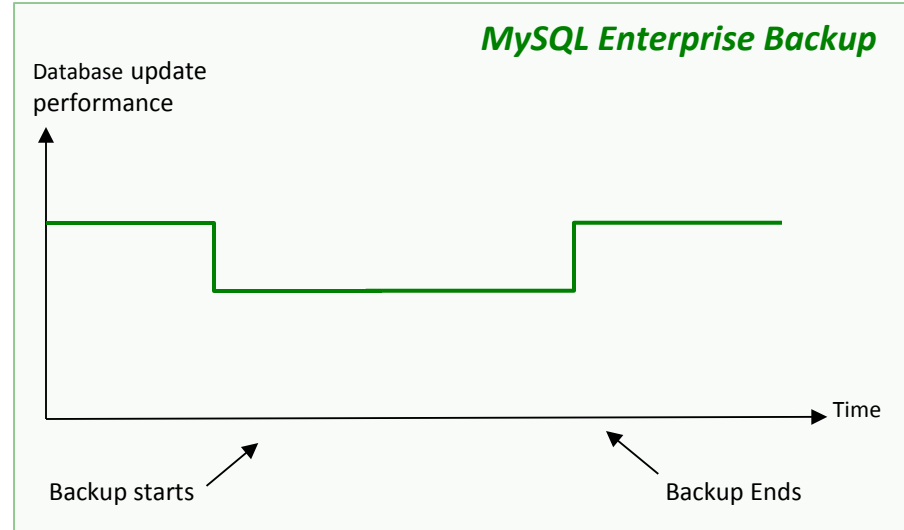
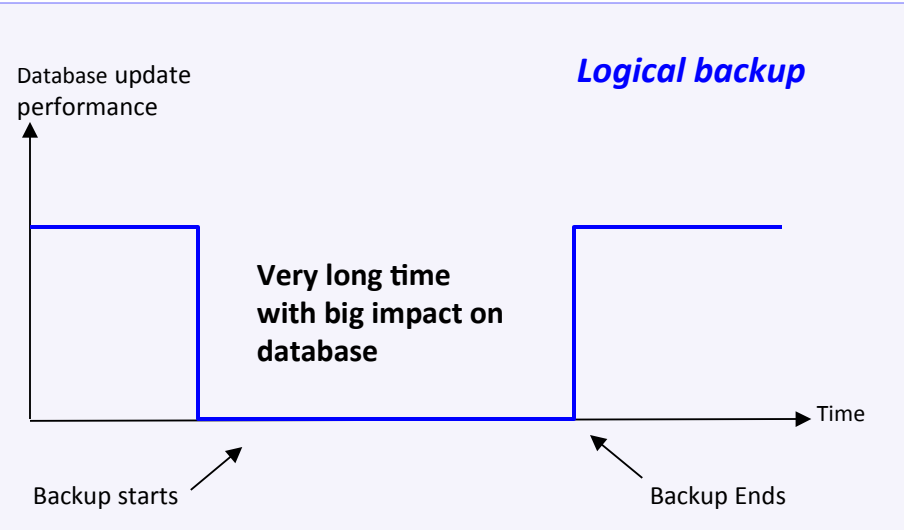
- Full Backup
 - Logical Backup (mysqldump)
 - Raw Backup (mysqlhotcopy)
 - Snapshot Backup (File system and Storage snapshots)
 - XtraBackup ***new***
 - MySQL Enterprise Backup
- Regular/Quick backups using snapshots
- Differential Backups using XtraBackup or MySQL Enterprise Backup
- Incremental Backups using MySQL Binary Logs

Backups can be done from MySQL replication master or slave

Snapshot Technologies Supported

- Linux LVM
- Solaris ZFS
- Microsoft VSS
- Amazon EC2 EBS Snapshot
- Veritas VxFS
- NetApp SnapManager
- EMC CLARiiON SnapView
- BlueArc Titan

Full Backup Methods and Impact on Transactions



Incremental Backups (Log Based)

- Only MySQL Binary Logs are backed up.
- Incremental backups have no impact on MySQL Transactions.
 - No Read or Write Lock
- Enabling Binary Logs has some performance impact on the MySQL server.
- MySQL Binary Logs are generally used for replication and need to be enabled on the MySQL server for incremental backups.
- Typical backup schedule involves frequent incremental backups (even hourly).

ZRM with XtraBackup



Backup Parameters Backup Mode: <input type="text" value="Raw"/> Binary Log Path: <input type="text" value="/var/lib/mysql"/>	Plugin Parameters Compression: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (N) OTF Compression: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (N) (On The Fly Compression, only for Logical Backup) Encryption: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (N) Path to Passphrase File:* <input type="text"/> Copy: <input type="radio"/> Custom <input checked="" type="radio"/> Default Copy Plugin: <input type="text" value="Socket"/> Socket Remote Port: <input type="text" value="25300"/> Remote MySQL Binary Path: <input type="text" value="/usr/bin"/> MySQL Block Backups: <input checked="" type="radio"/> Custom <input type="radio"/> Default MySQL Block Backup Type: <input type="text" value="XtraBackup"/> XtraBackup Binary Path: <input type="text" value="/usr/bin"/> Throttle (in I/O per sec): <input type="text"/>	Pre Backup: <input type="radio"/> Custom <input checked="" type="radio"/> Default Plugin Path:* <input type="text"/> Plugin Option(s): <input type="text"/> Post Backup: <input type="radio"/> Custom <input checked="" type="radio"/> Default Plugin Path:* <input type="text"/> Plugin Option(s): <input type="text"/> Snapshot: <input type="radio"/> Custom <input checked="" type="radio"/> Default Snapshot Type: <input type="text" value="None"/>
Backup Alerts/Logging Email Address: <input type="text"/> Email Policy: <input type="text" value="After every backup"/> Verbose Logging: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (N)		
MySQL Integration Settings Use MySQL Replication: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (N) Include Stored Routines: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (N) Copy Binary Logs: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Default (Y) Default Character Set: <input type="text" value="utf8"/> Logical Backup Options: <input type="text"/>		

Xtrabackup parameters



MySQL Block Backups: Custom Default

MySQL Block Backup Type: XtraBackup

XtraBackup Binary Path: /usr/bin

Throttle (in I/O per sec): 25

Other xtrabackup parameters are available in the configuration file

ZRM - Backup Sets



MySQL Server Parameters

Server Type:

Connection Type: Port Socket File

Socket File Path:

Host:

MySQL Client Utilities Path:

MySQL User Parameters

Username:

Password:

SSL Options:

What to backup

Backup Source Type:

Select Database(s)

Select: [All](#) | [None](#) show size

- mysql (0.51 MB)
- zmc (2.78 MB)

What To Exclude

Exclude Databases:

Managing Database Events



Backup Date:

December 2010

S	M	T	W	T	F	S
28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1

Legend:

Backup Level	Single	Multiple
Level 0		
Level 1		

Database Events Page 1 of 1

Last Full Backup: 2010-12-22 14:20:41

All | None **Timestamp** **Event**

<input type="checkbox"/>	Timestamp	Event	more
<input type="checkbox"/>	2010-12-22 14:23:34	use to_inc; /*!C latin1 */; insert into test_innodb values (1...	more
<input type="checkbox"/>	2010-12-22 14:23:34	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:23:40	insert into test_innodb values (2,'b-2');	more
<input type="checkbox"/>	2010-12-22 14:23:40	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:23:45	insert into test_innodb values (3,'b-3');	more
<input type="checkbox"/>	2010-12-22 14:23:45	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:23:51	insert into test_innodb values (4,'b-4');	more
<input type="checkbox"/>	2010-12-22 14:23:51	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:23:56	insert into test_innodb values (5,'b-5');	more
<input type="checkbox"/>	2010-12-22 14:23:56	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:25:03	use to_inc; /*!C latin1 */; insert into test_innodb values (1...	more
<input type="checkbox"/>	2010-12-22 14:25:03	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:25:08	insert into test_innodb values (2,'b-12');	more
<input type="checkbox"/>	2010-12-22 14:25:08	COMMIT;	more
<input type="checkbox"/>	2010-12-22 14:25:14	insert into test_innodb values (3,'b-13');	more

Cloud Backup

Open Source Backup 14

Restoring a table (Xtrabackup export)

What to restore

Restore Type:

Restore Tables:

Select Databases to restore

Select: [All](#) | [None](#)

- test
- test_innodb

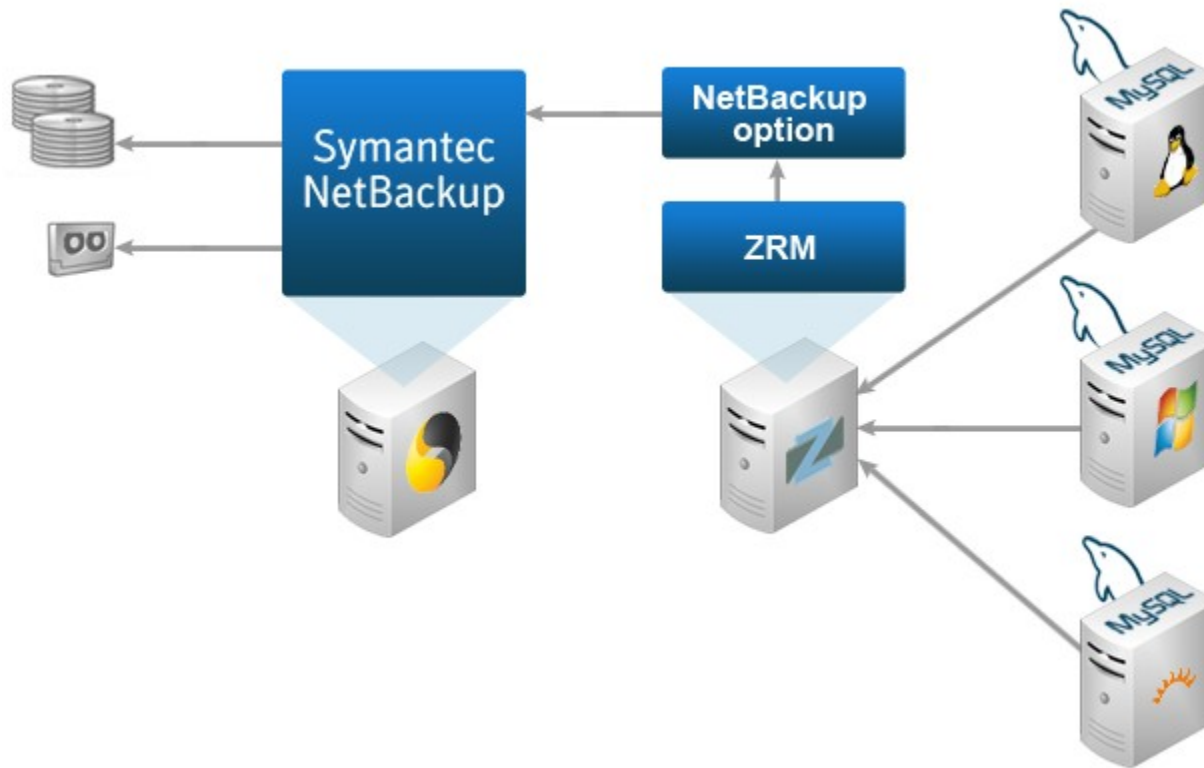
Supported Platforms

MySQL Enterprise and Community Editions
SkySQL Enterprise
Percona Server with XtraDB
MariaDB

MySQL Server 4.1 and above	ZRM Server
Linux & Solaris	Locally or Remotely on Linux / Solaris
Other Unix & OS X	Remotely on Linux/Solaris
Windows	Remotely on Linux/Solaris Locally or Remotely on Windows

<http://www.zmanda.com/supported-platforms.html>

Integrated with NetBackup and Tivoli



Protected by Zmanda: Subscribers of Enterprise Editions



Web and Media



Government



Research & Education



Telecom & Service Providers



Manufacturing & Services



Register on Zmanda Network for more information:

<http://network.zmanda.com/>

Contact us at:

zsales@zmanda.com