

High Availability Database

Modern websites and applications are only as reliable as the database powering them; that's why mission-critical projects are typically served by a dedicated database server. Such a configuration provides significantly increased performance and greater stability, but does not address one of the most pressing issues: downtime. In fact, such a configuration actually **introduces more single points of failure** into the equation. But there is a solution for businesses that require maximum uptime, flexibility, and redundancy.

A High Availability database configuration adds a second database server to your hosting infrastructure and serves as a standby in case of failure, during planned maintenance, or whenever an emergency occurs. This redundancy means that routine necessities such as software upgrades, security patches, and hardware upgrades can proceed without impeding access to your critical production database.

The best way to **ensure uptime** and **keep your MySQL- or Percona-powered site accessible** to you and your customers is with a High Availability MySQL Database.



Engineered for Reliability

High Availability Database provides your mission critical applications with a **highly reliable database back end** built on enterprise-class hardware specially tuned and optimized for performance. The best part? Absolutely **no configuration or maintenance** is required on your part; everything is fully managed by our on-site team of dedicated support specialists.



Engineered for Redundancy

Our custom-engineered solution consists of two identical servers running a single instance of MySQL or Percona. As a result, **redundancy is built in to every component level** — power, network connections, and disks. In the event of a network, component, or system failure, your database services will automatically fail over to the other server.



Engineered for Uptime

Our failover solution ensures that **your database will always be available** to you — and your customers — eliminating unnecessary downtime and preserving access to your critical systems. Moreover, Liquid Web's Sonar Monitoring™ team proactively monitors your entire High Availability setup, including cluster status and overall server health, 24/7/365.

Our Heroic Support® is Included

Every High Availability Database solution is Fully Managed, with 24/7/365 support provided by a dedicated team of technicians specifically trained for this solution.

We're always available in under 59 seconds.

59
SECOND

PHONE
INITIAL RESPONSE
GUARANTEE

59
SECOND

LIVECHAT
INITIAL RESPONSE
GUARANTEE

30
MINUTE

SUPPORT TICKET
INITIAL RESPONSE
GUARANTEE

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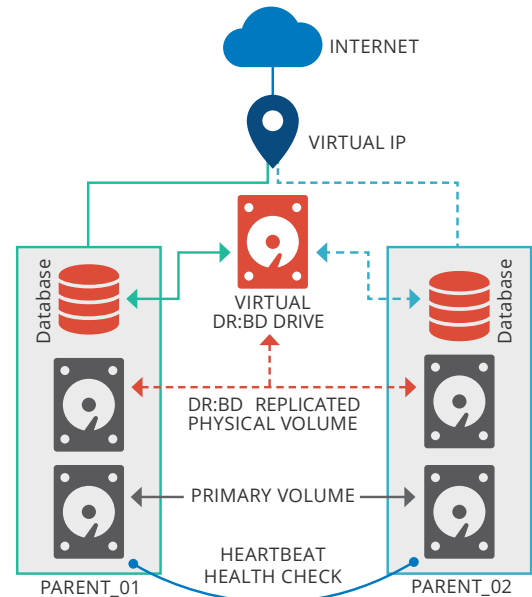
Technical Overview

How is Data Replicated?

High Availability Database provides instant data replication between two redundant nodes, an active server and a hot spare, using proven, enterprise-grade tools including Distributed Replicated Block Device (DRBD) software and Heartbeat. With DRBD, whenever data is written to disk, the changed blocks are immediately replicated across a dedicated network link to the other node. The replication is synchronous: If your database writes to disk successfully, then the data will have been replicated successfully as well.

How Does it Work?

Only one node is active at a time; the inactive node will be waiting with a copy of your data in hot standby, ready to take over in less than a minute* in case of a catastrophic hardware failure on the active node. The cluster also can be failed over manually by our Heroic Support® technicians. Generally, a manual failover can occur much more quickly than an automatic failover*. This means that upgrades, hardware maintenance, or any software maintenance that requires a reboot can be performed on one server at a time and your databases will stay available through the whole maintenance. Compared to painful, hour-long maintenance windows for standalone dedicated servers, the benefit becomes very clear.



What Happens if a Node Fails?

The two servers are in constant communication via Heartbeat, performing health checks over redundant links to rapidly detect catastrophic hardware failure. In addition to Heartbeat, we also proactively monitor both nodes 24/7/365. Anytime our Sonar Monitoring™ team detects an issue, they will immediately begin troubleshooting and contact you right away.

How Does This Affect My Application?

The short answer: It doesn't. As far as your application is concerned, your High Availability Database is no different than any other standalone database server. Thanks to floating public and private IP addresses which fail over with your databases, your application will only ever need to connect to a single IP, regardless of which server is active at any given time.

When uptime is your No. 1 priority, a High Availability Database is your best solution. Liquid Web offers two core classes of this product to satisfy your infrastructure needs:

BUSINESS CLASS	ENTERPRISE CLASS
Standard Hard Drives	Hot-Swappable Hard Drives
Single Power Supply	Redundant Power Supplies
1G Bonded Connection for DRBD	10G Connection for DRBD
Benchmarked Queries Per Second**: 8,500	Benchmarked Queries Per Second**: 25,000

* Time estimate refers to both failure detection and failover of services. Service failover time may be affected by settings in your database's configuration such as `innodb_buffer_pool_dump`.

** Benchmarks were run using a read/write multi-table OLTP test with Sysbench v0.5 and represent an average of results from tests using thread counts up to 1,500.