Improve Uptime with a High Availability Database

Whether you’re an online retailer, mobile app developer, or a business running back office applications, your solutions rely on scalable database technology. And if your solutions are mission-critical, chances are that your databases run on dedicated servers in order to deliver the best performance. This also introduces increased risk. A dedicated database server introduces multiple single points of failure that can impact the availability of your applications. Fortunately, there is a way to leverage the increased performance of a dedicated database server while mitigating the risks to uptime.

Liquid Web’s High Availability Database eliminates the risk of single points of failure in your database environment and dramatically increases database uptime by:

- Introducing a secondary database server to your environment
- Implementing intelligent replication services to keep your primary and secondary databases in sync
- Providing automated failover in case of a primary database outage
- Delivering comprehensive managed services to provide a turnkey solution that maximizes system uptime without impacting your teams

High Availability Database is available for both MySQL and Percona database environments.

Engineered for Reliability

High Availability Database provides your mission critical applications with a highly reliable database back end built on enterprise-class hardware that’s tuned and optimized for performance. Absolutely no configuration or maintenance is required on your part. Everything is fully managed by our team of database experts.

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 at 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 by eliminating unnecessary downtime and preserving access to your critical systems. Moreover, Liquid Web proactively monitors your entire High Availability setup, including cluster status and overall server health, 24/7/365.

Backed by the Most Helpful Humans in Hosting™

Every High Availability Database solution is fully managed, with 24/7/365 support provided by a dedicated team of technicians specifically trained to support High Availability Database environments.

We’re always available in under 59 seconds.

59 SECOND PHONE INITIAL RESPONSE GUARANTEE

59 SECOND LIVECHAT INITIAL RESPONSE GUARANTEE

30 MINUTE TICKET INITIAL RESPONSE GUARANTEE
Technical Overview

How is data replicated?

High Availability Database provides instant data replication between two redundant nodes, an active server and a hot spare. It uses 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. 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 throughout the entire 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 database 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 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:

<table>
<thead>
<tr>
<th>BUSINESS CLASS</th>
<th>ENTERPRISE CLASS</th>
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</thead>
<tbody>
<tr>
<td>Standard Hard Drives</td>
<td>Hot-Swappable Hard Drives</td>
</tr>
<tr>
<td>Single Power Supply</td>
<td>Redundant Power Supplies</td>
</tr>
<tr>
<td>1G Bonded Connection for DRBD</td>
<td>10G Connection for DRBD</td>
</tr>
</tbody>
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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.