



**The Ultimate
High Availability
Checklist**
for Any Website

YOU MUST KNOW EVERYTHING

Is your IT infrastructure High Availability (HA) optimized? Do you have a disaster recovery plan in place? **No?!**

Ok, do you at least know who is hosting your web app? What about your email services? How about any databases that have client information in them? **Yes, but?!! But what?!**

Oh, boy. Well, there's good news and bad news—the good news is that you're not alone, the bad news is that you are probably at risk for losing money, and maybe even your business. Hyperbole?

We don't think so. Let's fix this.



CONTENTS

Why HA Is Important For Your Business4
Create. Compile. Calibrate.6

First Steps to Making Your Business Highly Available

First, Know Where Your Data Is7
Second, Make Sure You're Prepared for the Worst7

Making Your Infrastructure Highly Available

Focus on Server Hardware8

After the Checklists: How We Can Help

How We Make cPanel Highly Available 10
How We Make MySQL Highly Available 11
How We Use Load Balancing for High Availability12

WHY HA IS IMPORTANT FOR YOUR BUSINESS

Yep, we thought those questions a couple of pages prior might get your attention. We've collected data from a Forrester Research market study, an Information Week report, a Network Computing article, and select papers from the Aberdeen Group to demonstrate how harshly downtime can affect a business:

"On average, downtime costs an enterprise \$686,000 per hour, which tallied up costs \$60 million a year. Put it all together, and enterprises lose \$26 billion in revenue every year from downtime alone, not including loss of employee productivity or the costs to fix the issues."

Here's something else: ***"SMBs aren't immune either. Although their traffic levels aren't nearly as high as enterprises, each mid-sized business still loses an average of \$1 million per year."***

Scary, right? Well, [here's the rest of that article](#). Just don't read it right before you go to bed if you want to get any sleep. **We are here to help though.**

Even if you are ultimately happy with your current host or you wind up going with someone who isn't us (our moms think we are great, by the way, as do our customers), we think good information is good business.

So, what's inside the rest of this document? Well, in addition to a concise summary of products and services we have at Liquid Web, **there are several checklists that will help you gauge how knowledgeable you are about, your own IT infrastructure**; the location of your data; your disaster recovery plan and safeguards; your high availability readiness; and your overall satisfaction with your current host.

In other words, we're going to help you down the path toward self awareness, which will (hopefully) help you make more money and hang on to more of what you make. Keep going and you'll...

1. Brush up (briefly) on the ins and outs of HA cPanel, HA MySQL, load balancing, and the numerous benefits they provide.
2. Figure out how much you know about your own company's HA with a handy dandy checklist.
3. See what it takes to make your infrastructure work for you, with, that's right, another checklist.
4. Take a deeper dive into how Liquid Web makes cPanel HA.
5. Get a look at Liquid Web's HA MySQL DaaS products.
6. Explore Liquid Web's load balancing options, and why they are so important to the health of your website.

Treat this document as a **reference guide and an evaluation tool**. We want you to check every single box on each checklist, for the sake of your business.

As always, we're here to help!

— CREATE COMPILE CALIBRATE

When it comes to creating and maintaining a dynamic online space, this should be your mantra: Create, Compile, Calibrate. If your hosting provider isn't **1. giving you the tools to easily and quickly create and augment your site (create)**; **2. maintaining a high availability, redundant, and ironclad database infrastructure (compile)**; and isn't **3. balancing the load on your website, so you're not crashing (calibrate)**, they are doing it wrong.

In order to be ahead of the curve and be ready for whatever comes your way, you need to know the ins and outs of your systems, your infrastructure, and your redundancies. The more you know about what makes your infrastructure tick, the easier it is to optimize your workflow, prioritize your needs, and prevent problems. That's where Liquid Web comes in—we have the hardware, software, personnel, solutions, and services to keep your business agile, HA, and lean. Even if you don't take us up on our 1000% downtime compensation and 100% uptime guarantee, we've provided this documentation and checklist so you can put your company on the path toward IT optimization and downtime prevention.

1. Making Your Business Highly Available: On page 7 you'll answer a series of questions that not only gauges your understanding of your infrastructure, but also gives you the know-how to evaluate your current provider(s).

2. Making Your Infrastructure Highly Available: On page 8 you'll answer a series of questions that will test your knowledge of your infrastructure's minutiae. This will give you insight into how well you really know your systems and whether or not there's room for improvement.

MAKING YOUR BUSINESS HIGHLY AVAILABLE



First, Know Where Your Data Is

- ❑ Where is your customer data stored?
- ❑ Where is your product data stored?
- ❑ Where is your sales data stored?
- ❑ Where are your internal HR records stored?
- ❑ Do you have a complete data flow diagram?
- ❑ Can you quickly and easily scale your database?
- ❑ Are you collecting customer data? If so, are your practices (and your server) General Data Protection Regulations (GDPR)-compliant?
- ❑ Is data deletion being done securely?
- ❑ Is your data physically (as well as digitally) protected?
- ❑ Who has physical access to your data?
- ❑ Who has digital access to your data?

Second, Make Sure You're Ready for the Worst.

- ❑ Do you have a disaster recovery plan in place?
- ❑ Do you have disaster prevention safeguards in place?
- ❑ Are your protections virtual?
- ❑ Are your protections physical?
- ❑ Are your protections cloud-enabled?
- ❑ Do you have redundant protections in geographically separate locations?
- ❑ Do you have an offsite backup?
- ❑ When was the last time you tested your backups?
- ❑ What is your plan in the event of a disaster or catastrophic failure?
- ❑ Who do you contact in case of a disaster or catastrophic failure?
- ❑ Who's in charge of spinning up your redundancies?
- ❑ How long would you reasonably expect to be down in the case of a disaster or catastrophic failure?
- ❑ Who's liable for losses as a result of data loss or downtime?
- ❑ What are your recovery priorities?
- ❑ What systems should be reinitialized first?
- ❑ Do you have the tools, personnel, and resources in place to rectify the failure?
- ❑ Do you have the tools, personnel, and resources in place to trace the failure?
- ❑ Do you have the tools, personnel, and resources in place to prevent another failure?



MAKING YOUR INFRASTRUCTURE HIGHLY AVAILABLE

Focus on Server Hardware

- How is your data backed up?
- How often is your data backed up?
- How many drives is your data backed up on?
- Are your backup drives virtual or physical?
- Are your servers managed or unmanaged?
- Are your servers shared or dedicated?
- Are your servers optimized for performance and HA?
- Do you know how many concurrent users your server(s) can handle?
- Do you know what your data throughput is?
- Do you know how many virtual IPs you can assign?
- Does your setup include a load balancer?
- How does your load balancer assign traffic?
- Are your servers constantly monitored by an autofailover system?
- Are you servers constantly updated with the latest patches, fixes, updates, and software?
- Is your server hardware upgraded regularly?



AFTER THE CHECKLISTS: HOW WE CAN HELP

At Liquid Web we eat, eat (we don't have time to sleep, but we do get hungry), and breathe the mantra: Create, Compile, Calibrate—that's why we provide a High Availability cPanel, a High Availability MySQL, and Load Balancing options.



High Availability cPanel: The servers at Liquid Web not only support cPanel, they are optimized to run cPanel with an eye toward availability, continuity, and uptime.



High Availability MySQL: With complete redundancy (both physical and virtual), synchronous data replication, resource monitoring, and automatic failover, you can be sure that your data is secure.



Load Balancing Options: Are sudden spikes in users keeping you up at night? At Liquid Web, we've got you covered. We can implement a system that evenly disperses users across servers, dynamically, and in real time.





"Liquid Web hosting is more flexible with cPanel. We can setup the WordPress site ourselves in about 15 minutes, without getting technical support involved. With Liquid Web, we are able to have our lower level employees perform functions necessary to running our business. We can quickly create new accounts or load and set up CMS applications."

-Rob Riggs, President of Your Design Online

HOW WE MAKE CPANEL HIGHLY AVAILABLE

While cPanel doesn't have native high availability support—it's a feature that has been highly requested over the years—at Liquid Web we have 24/7/365 support and cPanel-optimized servers, giving you the tools to create and maintain your website. Our HA configurations (including the ones that contain your cPanel data) are equipped with DR:BD (Distributed Replicated Block Device) physical volumes—this allows for synchronous data replication. Whenever data is written to disk, the changed blocks are immediately replicated to the other node. You never have to worry about losing the customization and automation that you've implemented via cPanel.

Autonomous access to cPanel, your website, and your design is—obviously—extremely important, but what's Integral to Liquid Web's High Availability cPanel services is customer support. Our customer support—including our extensive online database, our responsive, always-available team of experts, and our streamlined support workflow (you get connected with the person that can help you), is what makes our cPanel implementations truly HA.

HOW WE MAKE MYSQL HIGHLY AVAILABLE

We know that every enterprise (business or otherwise) has unique needs—it's why at Liquid Web we have so many products, services, and solutions. So, if your company or group needs a robust, scalable, and highly available database we've got the goods. Our Database-as-a-Service (DaaS) solution provides your enterprise with a managed, dedicated, platform-independent MySQL database that is easily scalable, redundant, and optimized for maximum performance. Oh, and like everything else at Liquid Web, we make sure high availability is baked right in.

Choose Your Hardware with High Availability

In addition to reducing overhead on your primary web server, an HA MySQL cluster can be utilized with any hardware tier; just place a single call to Liquid Web. Oh, and our DaaS is HA. The use of multiple hardware nodes (read/write and passive) ensures that your database will be available and accessible in almost any situation. We like uptime and we know you do too.

Managed, Redundant, & Platform-Independent

Our DaaS is designed with you in mind. Want us to manage every aspect of the service (hardware, software, operating system, high availability options)? No problem. Do you want to be more hands on, have more say in how your server is run and maintained? That's okay, too. Whatever your level of involvement, you can be sure that your database is HA (minimal downtime even in agile setups), always optimized, and consistent—our solution allows you to effectively double your read performance by initiating read-intent requests when appropriate. We also make sure that your setup is regularly redundant, which means you're back up, running, and up-to-date quickly (in the event of a catastrophic disaster). Our DaaS includes one complete daily backup and two 24-hour log backups.

USING LOAD BALANCING TO MAKE WEB SERVERS HIGHLY AVAILABLE

Although it may not be as spicy as HA cPanel or HA MySQL, at Liquid Web our load balancing options are integral to maintaining high availability. As user traffic spikes—viral marketing campaign, a hosted event, social networking—your website could slow down or (worst case scenario) crash under the load. However, with load balancer solutions you can be sure that each server in your network will take its share. Not unlike a real traffic cop (without the white gloves, sadly), our load balancing solutions evenly distribute website traffic to the available servers via a set of algorithmic rules. Sitting between your users and your servers, a load balancer—either shared or dedicated, physical or virtual—directs traffic to one of your redundant web servers based on predetermined rules that you can set.

Round Robin

Perhaps the least complex of the balancing methods, in the round robin method traffic is evenly distributed by simply forwarding requests to each server in the infrastructure in turn, one by one. When the algorithm has made it through the list of instances/servers in its entirety it goes back to the top of the list and begins again.


Least Connect

A default load balancing algorithm the least connections method will assign incoming requests to the server with the least active connections. This is the default load balancing method as it will offer the best performance in most cases.

Historical Intelligence

Also known as the least response time method, the historical intelligence algorithm is similar to the least connections method assigns requests based on both the number of connections on the server and the shortest average response time, thus reducing load by incorporating two layers of balancing.



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