

WHITEPAPER

What is a Virtual Load Balancer

What is a virtualized (or software) load balancer, and why do you need it as a client.

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Introduction

When it comes to addressing the ever-evolving issues of business infrastructure, one of the most important questions that comes up is the idea of space. Specifically, that of server space requirements and how they can affect the overall performance of your company's internal systems and, ultimately, products and services.

Cost is also a very important factor to consider when deciding how - and with what software/hardware - your company intends to establish the optimal server configuration. Striking a balance plays a major role in the success of the complete network.

Essentially, your goal is ensuring that all the integral parts of your software are capable of handling incoming traffic on all fronts, regardless of your company's size. This is where virtual load balancing comes into play.

What is Virtual Load Balancing? Why Do You Need It?

When broken down to its purest definition, virtual load balancing is the process of splitting up incoming online traffic to ease the cumulative workload of a server setup.

At its most technical, virtual load balancing is meant to provide cloud or VM-based support and monitoring for any influxes in traffic that your multi-server setup may encounter. Choosing the right software load balancer for your company's specific needs hinges heavily on three important areas:

1. Unparalleled Performance: Using a load balancer that can reduce the amount of total resources used while maintaining and even increasing system performance saves you and your company time, money, and a few IT headaches.

2. Consistency and Reliability: Having the right virtual load balancer ensures that your servers are always connected. This reduces - and in some cases, eliminates - the risk of any substantial downtime that could cause decreased customer satisfaction.

3. Detailed Monitoring and Reporting: The ideal load balancer keeps track of any and all pertinent analytics that contribute to your system's performance, making it easier to identify any weak spots or strong suits related to your server system.

For these reasons and many more, [Snapt Balancer](#) is the perfect solution for all of your server network health and performance requirements.

Hardware versus Software Load Balancing

Software load balancing solutions allow you to run an entire enterprise load balancer in a virtualized or cloud environment, or on standalone hardware should you choose.

The benefits of using software over hardware are vast, including:

Limitless scalability: the more power you add to the VM the more power the load balancer has. You are always in direct control of the amount of CPU cores, the memory and more with your software load balancing solution, and never have to throw it out for an upgrade.

Flexibility: deploy and move the software where you need it, as you need it. You can purchase a load balancer to run in the Amazon cloud, then in-house it and move it to a VMware server.

Customizable: software only load balancers generally have more features, with a faster release schedule. The Snapt Balancer has a full API allowing you to completely integrate it into your solutions, and allows on-box console access.

Lower cost: the flexibility of a software solution is matched by the price, a far cheaper solution to start with and a dramatically cheaper solution to upgrade and grow with.

Failure proof: there are no complete failures with a software solution. Hardware load balancers can fail and need to be replaced; even in the event your VM fails your software solution can be moved easily and quickly.

Snapt Load Balancer Key Offerings

The abilities of the Snapt Load Balancer are virtually innumerable; however, there are a handful of key functions that must be mentioned to illustrate the necessity of this product.

Customize to Suit Your Server's Needs

Not all server configurations are created equal. This is why Snapt has created a series of different ways in which you can set up your virtual load balancing performance to meet specific needs:

Cookie Insertion: With this balancing method, customized cookies can be placed into the flow of incoming web traffic to alert your servers to any users that may try to visit your site or multiple sites. Think of them as probes that are constantly on the lookout for new and existing visitors, guiding them to your sites and allowing them to seamlessly pick up where they left off in their browsing experience.

RDP Cookies: These special cookies - known as remote desktop protocol cookies - make all of your users remain on their original server while in an active session. Much like placing a dog ear on your favourite book, RDP cookies are place-holders that have characteristics specific to certain visitors to your site(s).

Source Hash: The source hash method keeps users - or groups of users - on the same servers based on their IP addresses. This method makes it much easier to preserve user sessions across multiple TCP-connected sessions.

Round Robin: A much more standard load-balancing approach, round-robin balancing focuses on increasing and ultimately maintaining high performance levels, allowing servers to monitor load weight while avoiding connection limits.

Least Connections: When using a load balance method that employs the least amount of connections possible, you can assign spaces for new user sessions to the least-used servers in your network. The end result is a more even spacing of total load among servers.

For a more in-depth look at each of the balancing methods listed, or to gain insight on other potential balancing configurations, be sure to visit the [Snapt Knowledge Base](#).

Total Security, Zero Hassle

More and more websites are switching to full HTTPS communications, meaning the bulk of the burden is placed on the contacting server(s). With Snapt's SSL Acceleration and Offloading features, much of the load that would have been placed on your servers is now taken care of by the load balancer itself.

Essentially, Snapt communicates information sent from a contacted site in plain HTTP. Once that exchange is complete, the balancer will then convert it to SSL for users. Your servers fulfil all site SSL requirements while maintaining an optimal load balance. It's that simple.

Load Balancing, Intelligently

With Snapt's Intelligent Load Balancing technology, there will never be a time when customers visiting your site will be faced with inconvenient down times or a litany of errors. Every experience visitors have with your site will be optimized with Snapt keeping watch at the helm.

Protocol Awareness and Adherence

Snapt Load Balancer is intuitive to all of your unique server needs. Everything from understanding the basic protocol of your content requests to handling HTTP redirects is handled by Snapt, taking much of the work and load off your server setup.

Active/Passive Redundancy

Because Snapt uses an active/passive redundancy combination, in the event of a hardware or software failure within your network or server, the balancer will use a different IP address and switch to a functioning node. This means zero front-end errors and zero downtime for your servers.

Detailed Analytics at Your Fingertips

Keeping track of your servers' performance levels can help any system administrator pinpoint the strengths and weaknesses within a given configuration. With Snapt's fully customizable reporting system, you can do just that.

Looking back to data from a day or even months ago is a breeze, and because Snapt is a major supporter of open source, you have access to all of our performance databases whenever the occasion calls for it.

Extensive Customer and Technical Support

We know that even if every detail of your server setup has been checked and double checked, thanks to Murphy's Law, something is bound to go slightly awry, sooner or later. We anticipate these headache-inducing moments by having a trained team of support staff ready to help.

Snapt also offers a wide array of [user manuals](#), tutorials, and [live demos](#) for all of our products. The Snapt Community places you in an online pool of product users like you, where you can share tips and suggestions on how to enhance the total user experience.

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What is a virtual load balancer?



The [Snapt Knowledge Base](#) also offers a wide range of topics and explanations for every aspect of the load balancer's functions and capabilities.

Summary

If, at the end of the day, you still find yourself scratching your head over a specific issue, Snapt Support gives you access to our helpful staff's range of services. Feel free to enquire at our website.

Not ready to dive headfirst into the full Snapt Load Balancer experience? We understand. Take a [14-day trial run](#) to see what top-quality performance and trusted security feel like.

For more information about Snapt Balancer, a detailed look at its features, or a better look at our entire line of virtual products, visit www.snapt.net.

About Snapt

Snapt is a total application delivery platform, ready to ensure your site is always online, always fast, and always safe. We provide load balancing, security, caching and acceleration to your website or service, and then we support it like you've never seen before.

With more than 10,000 clients in over 50 countries, industry leaders trust Snapt to ensure their critical applications are fast, security and available.

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