Red Book Web Service Overview

Sucuri Web Application Firewall

Sucuri is our Web Application Firewall (WAF) for several of the Hamilton Public Library domains (URLs). The main purpose of the WAF is to block DDoS (Distributed Denial of Service) attempts, as well as filtering out bad or malicious requests from bots, cross site scripting (XSS), SQL injection, and other malicious traffic. Sucuri also acts as a Content Delivery Network (CDN), caching copies of frequently requested files, so that they can be loaded quickly, and not having to utilize server resources for the same files frequently. The service also operates in a nearest node distributed network, so that cached files can be loaded from a server that is as close geographically as possible to the requesting user. This allows for the site to load faster, with less server resource utilization, providing a better user experience. An added benefit of using Sucuri's CDN is that cached site files can be served to users, even when the web server is unavailable. This most commonly occurs when doing server or site maintenance that requires systems and service to restart, causing temporary outages in service. However, with the CDN in place, most users will never know or experience any issues with site responsiveness.

Acquia Load Balancers

The Acquia Professional Server system comes with two Load Balancers. Each instance of Acquia Professional has a primary and secondary load balancer. All requests are normally handled by the primary load balancer. There is an automatic failover system in place on the load balancers that kicks in anywhere from immediately to within 15 minutes of a primary load balancer failure. This failover system can be manually implemented by Acquia in the event of maintenance windows so that there is no loss of service. This setup allows for the greatest amount of uptime for our site from a networking perspective, with minimal hardware footprint.

Acquia Professional Server

The Acquia Professional Server is a shared server environment, hosted through Amazon's Web Services, where each account partition has full control over, and access to the resources allotted to it. This setup allows for our server resources to be fully managed between Acquia (they have control of the server configuration of our account), and AWS (they have control and manage the resources that the shared server environment utilizes. This environment is very beneficial to HPL as it allows us to focus on development of software, without having to worry about the hardware and operating system management. The benefit we get is if software bugs or errors occur due to maintenance, upgrades, or outages, Acquia works with us, and all the other account holders, in troubleshooting a fix to overcome those problems, so we are able to take advantage of their larger support and knowledge base, and find solutions to problems faster.

Acquia Virtual Environments

The Acquia resources provided are provisioned equally across three separate environments, Development, Staging, and Production. The three environments are identically configured, and provisioned, with only minor unique configurability between them. The shared resource system is important to remember, as there is only a single place to modify caching, and PHP memory availability settings, which will apply to all environments. So, it becomes very important that resources are not over

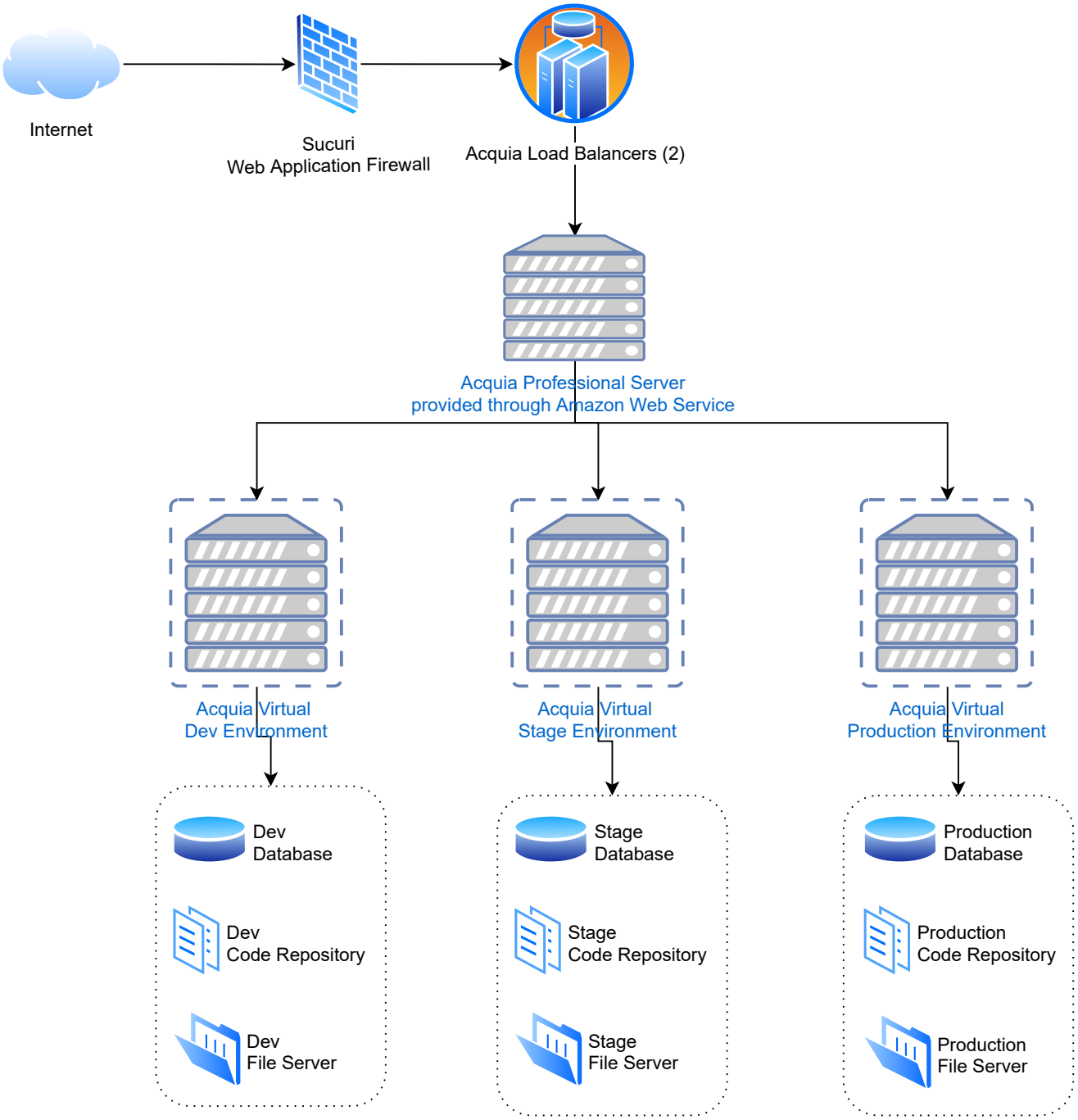
allocated to the environments, as it can leave the server with not enough resources to efficiently handle the remaining server functions.

The Production environment has a unique database setting that allows the database to be locked so that un-intended database copies or deletions cannot be made without confirming the account password, or a typed command. This feature should always be enabled to prevent any mis-click accidents.

The Development and Stage environments allow for what is called ‘Live Development’ configuration. It means that the code base is temporarily moved into the active file system so that code (development) changes can be uploaded to the server and be used immediately, without having to go through the Git repository.

All three environments have daily automatic database backups, that are on a three-day cycle. Each, environment also has a user triggered database backup system, which will store the user triggered backup indefinitely, or until deleted by the user.

Each environment allows for different code branches to be deployed, this allows for different features and functionalities to be developed and tested at the same time. It also allows for code branches to be changed on the fly to see how they will interact with a specific database configuration. This allows for deployment testing, to find bugs and errors before rolling out updates to the Production environment.


Internet
Sucuri
Web Application Firewall
Acquia Load Balancers (2)
Acquia Professional Server
provided through Amazon Web Service
Acquia Virtual
Dev Environment
Acquia Virtual
Stage Environment
Acquia Virtual
Production Environment
Dev
Database
Dev
Code Repository
Dev
File Server
Stage
Database
Stage
Code Repository
Stage
File Server
Production
Database
Production
Code Repository
Production
File Server