

Storyline Online – Performance Audit & Hosting Recommendation Report

This audit analyzes the current WP Engine hosting setup, reviews code performance, traffic and bandwidth, and provides recommendations for optimizing code, overall performance, as well as reducing hosting costs.

1- PHP Issues

a. Undefined Variable `\$video` in 404.php template

The 404.php template file in the theme root folder references an undefined `\$video` variable, triggering continuous PHP warnings in the server logs. Although minor, repeated warnings increase log volume, add processing overhead, and mask more critical errors.

Solution: Properly define or remove the `\$video` variable in line 9 of 404.php file.

b. Fatal Error – Call to undefined function get_header()

The theme's index.php file sometimes throws a fatal error (Call to undefined function get_header()) when executed directly by PHP, rather than through WordPress. This typically occurs when bots or crawlers directly access the file.

Solution: Add the following code at the top of index.php to prevent direct execution:

```
<?php
if ( ! defined( 'ABSPATH' ) ) {
    http_response_code(404);
    exit;
}
?>
```

2- Homepage Performance

The homepage uses **Slick Slider** to render multiple story thumbnails. Each slider item loads **both the featured image and rollover image** simultaneously, even before any hover event occurs.

Impact: Unnecessarily doubles image loads, consuming bandwidth and slowing page render time.

Recommendation: Modify the slider logic so that rollover images load **on hover**, not during initial page render

3- Hosting Environment & Traffic Analysis (Last 30 days)

Total Bandwidth	25.5 TB
CDN Bandwidth	25.48 TB (>99%)
Origin Bandwidth	17.35 GB (<1%)
Observation	Virtually all traffic is served through the CDN layer; few requests reach the origin server.

Environment

Location

URI

🔍 Search

🔼 Filter

📄 Download CSV

Environment	Total bandwidth ↓	Origin ⓘ	CDN ⓘ
Prd storyInonline	25.50 TB	17.35 GB	25.48 TB

Key Takeaways

- The site's content is largely **static and cacheable** (images, video thumbnails, etc.).
- WP Engine's **edge caching** is performing effectively — the backend load is minimal.

- This means the current large WP Engine plan is **over-provisioned** for the actual server demand.

4- Plugin - Formidable Forms

The **Formidable Forms** plugin currently loads its scripts and styles on **every page** across the site, even though it is only used on the “**Comments and Questions**” page.

Impact: This causes unnecessary HTTP requests and larger page payloads, slightly increasing load times and consuming more CDN bandwidth.

Recommendation:

Restrict Formidable Forms assets to load **only on the “Comments and Questions” page** where the form is used. This will **reduce HTTP calls**, save bandwidth, and improve overall page performance.

5- Cost & Hosting Recommendation

Current Situation:

- **Hosting Provider:** WP Engine
- **Current Monthly Cost:** ≈ \$ 2,900
- **Primary Bandwidth Driver:** CDN bandwidth

Recommended Solution

To optimize costs while maintaining reliability and performance, it is recommended to migrate the site to **Cloudways (Vultr High Frequency) server**, combined with Cloudflare Enterprise CDN add-on offered by Cloudways.

This configuration provides excellent performance, scalability, and caching at a fraction of the current cost.

Proposed Setup

- **Application Host:** Cloudways (Vultr High Frequency) – 32 GB RAM / 8 vCPU / 512 GB NVMe, approximately \$270/month.
- **CDN:** Cloudflare Enterprise Addon – flat rate \$5/month.
- **CDN Bandwidth:** around 26 TB at \$0.02/GB (~\$520/month).
- **Total Estimated Monthly Cost:** approximately \$795/month.

Select Server Type

Standard ⓘ High Frequency ⓘ General Purpose ⓘ CPU Optimized ⓘ

Micro	Small	Medium	2XL
Suitable for personal websites and simple blogs.	Suitable for growing businesses and moderate traffic.	Supports more demanding websites with higher traffic.	Built for mission-critical business applications.
\$16	\$30	\$60	\$270
USD per month You pay \$0.0238 hourly	USD per month You pay \$0.0446 hourly	USD per month You pay \$0.0893 hourly	USD per month You pay \$0.4018 hourly
• 1GB RAM • 1 vCPU • 32GB NVMe Storage • 1TB Transfer Bandwidth • 5 Free AI Copilot Credits ⓘ • Unlimited Visits • Unlimited Websites	• 2GB RAM • 1 vCPU • 64GB NVMe Storage • 2TB Transfer Bandwidth • 5 Free AI Copilot Credits ⓘ • Unlimited Visits • Unlimited Websites	• 4GB RAM • 2 vCPU • 128GB NVMe Storage • 3TB Transfer Bandwidth • 5 Free AI Copilot Credits ⓘ • Unlimited Visits • Unlimited Websites	• 32GB RAM • 8 vCPU • 512GB NVMe Storage • 6TB Transfer Bandwidth • 5 Free AI Copilot Credits ⓘ • Unlimited Visits • Unlimited Websites
Start Free	Start Free	Start Free	Get Started

This change would reduce hosting costs by **approximately 72%**, without compromising on speed, uptime, or scalability.

Cloudflare CDN Details: <https://www.cloudways.com/en/cloudflare.php>

Vultr Pricing Details:

https://www.cloudways.com/en/pricing.php?ref_id=web_navbar#general_purpose

Spinix Technologies