VidScale™
Customizable Content Delivery

MediaWarp Edge
Web Page Optimization

MediaWarp Web Page Optimization

Amazon published this fact: "For every 100ms delay in eCommerce page rendering 1% of revenue is lost". Although CDN Caching is an important piece of the puzzle in reducing the latency involved with rendering HTML pages, for dynamically rendered sites such as eCommerce this is often not enough. VidScale's MediaWarp Web Page Optimization (WPO) goes further to provide a large number of web performance best practices that encompass nearly all the steps involved in rendering a web page or application. Unlike other solutions, WPO addresses 100% of the traffic. WPO optimizations are focused around DNS resolution, TCP connections, HTTP requests, resource downloading, cached resource fetching, parsing and executing scripts, and finally object rendering. WPO automatically rewrites the HTML on the fly, reducing load time and keeping users engaged. WPO, part of VidScale's MediaWarp End-to-End CDN Platform, includes content optimizations that are executed directly on the edge server closest to the end user. This capability extends the power of our MediaWarp End-to-End CDN Platform with the best front-end optimization techniques in the industry.

WPO implements an extensible framework for manipulating various resource types. VidScale has created Optimization Packages targeting popular use cases such as desktop and mobile eCommerce applications. These Packages can automatically interpret resource syntaxes and perform intelligent, content- aware optimizations. Operations such as optimizing HTML, prioritizing and optimizing JavaScript and CSS, in-lining images, or even changing URLs are all easily done via a flexible Rest API. WPO evaluates site content to eliminate unnecessary steps, parallelize elements, and shorten the time many steps take to complete, creating a noticeable boost in page load time. WPO filters can be applied to your site to optimize content automatically without any need to change site code.

Performance Benefits

The graph below illustrates the performance improvement with the implementation of MediaWarp WPO. In this example, standard web page download time was broken down by load activity. These results display not just a faster page load time, but show that the core elements of a page are loaded more quickly as well, with a faster start render, speed index, and load time.

Increase Revenue by Reducing Page Load Time

Reduce the time to load almost any dynamically created webpage by 30% or more leading to increased transactions and higher QoE for eCommerce, Financial, and SaaS applications without recoding your website

Minimize Latency through Asynchronous Java Script and CSS

Asynchronous JavaScript and CSS modifies the way scripts and stylesheets are embedded into the page, making the browser process scripts, style sheets and other resources in parallel

Browser Specific Image Optimizations

Optimized bandwidth utilization by dynamically identifying situations where JPEG images can be replaced by browser specific image formats resulting in fewer bytes transferred to deliver a better web experience
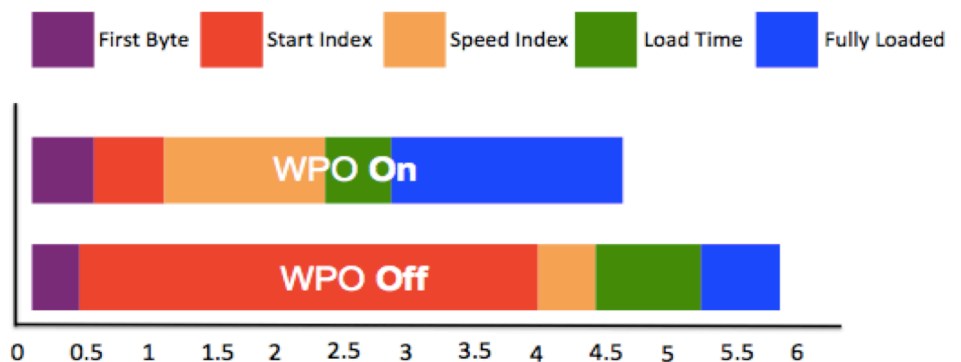

First Byte | Start Index | Speed Index | Load Time | Fully Loaded

WPO On

WPO Off

0   0.5   1   1.5   2   2.5   3   3.5   4   4.5   5   5.5   6

MediaWarp
Web Page Optimization (WPO)

Solution Summary

Performance: Significantly reduces latency of web page loading for any website on any device.

Cost Savings: Improves conversion ratios through lower latency on any eCommerce site

Simplified Management: Optimization Packages provide quick and easy tuning for fast ROI

Optimization Packages: Tuning variables are predefined for quick improvements on Mobile, Desktop, EPG, and Video Overlays

Key Features

Dynamic Page Rewrite – Dynamically rewrite pages to minimize rendering time

Optimize Caching – improve the cacheability of a web page's resources without compromising the ability to change the resources and have those changes propagate to users' browsers

Connection Reuse – Minimize load on origin by reusing open connections

Browser Specific Accelerations – Optimize for each browsers specific rendering capabilities leading to lowest latency possible for a given browser

Minimize round-trip time – Reduces the number of serial requests-response cycles to optimize data transfer

Compression – Uses less bandwidth and thereby reduces latency by minimizing the size of responses, downloads, and cached pages

Viewport Optimization – Optimizes time to view by changing the <img> elements on each HTML page to make sure only content within the viewport is rendered first

Inline JavaScript – Reduces the number of requests made by inserting the contents of small external JavaScript resources directly into the HTML document

Image Optimization – Automatically detects GIF and PNG images used as backgrounds in CSS and combines them into a single image that is referenced in the CSS for less overhead and faster rendering

JavaScript Reduction – Automatically reduce the size of JavaScript code by stripping away all comments and unneeded whitespace reducing bytes transfered

Defer JavaScript – unused JavaScript is deferred until all objects within the viewport are rendered to minimize rendering time

Mobile Specific Acceleration – Lazy-load of images, convert links to touch-objects to eliminate the delay associated with standard mobile hyperlinks

RESTfull Image Rendering – Quality of image rendered is based on the receiving devices capabilities eliminating unrealized byte transfers

Progressive Dynamic Site Acceleration - Smart cache begins delivering dynamic content while parallel access to the dynamic content is also underway, transfers only those bytes that have changed giving a huge positive impact for mobile devices