metarouter

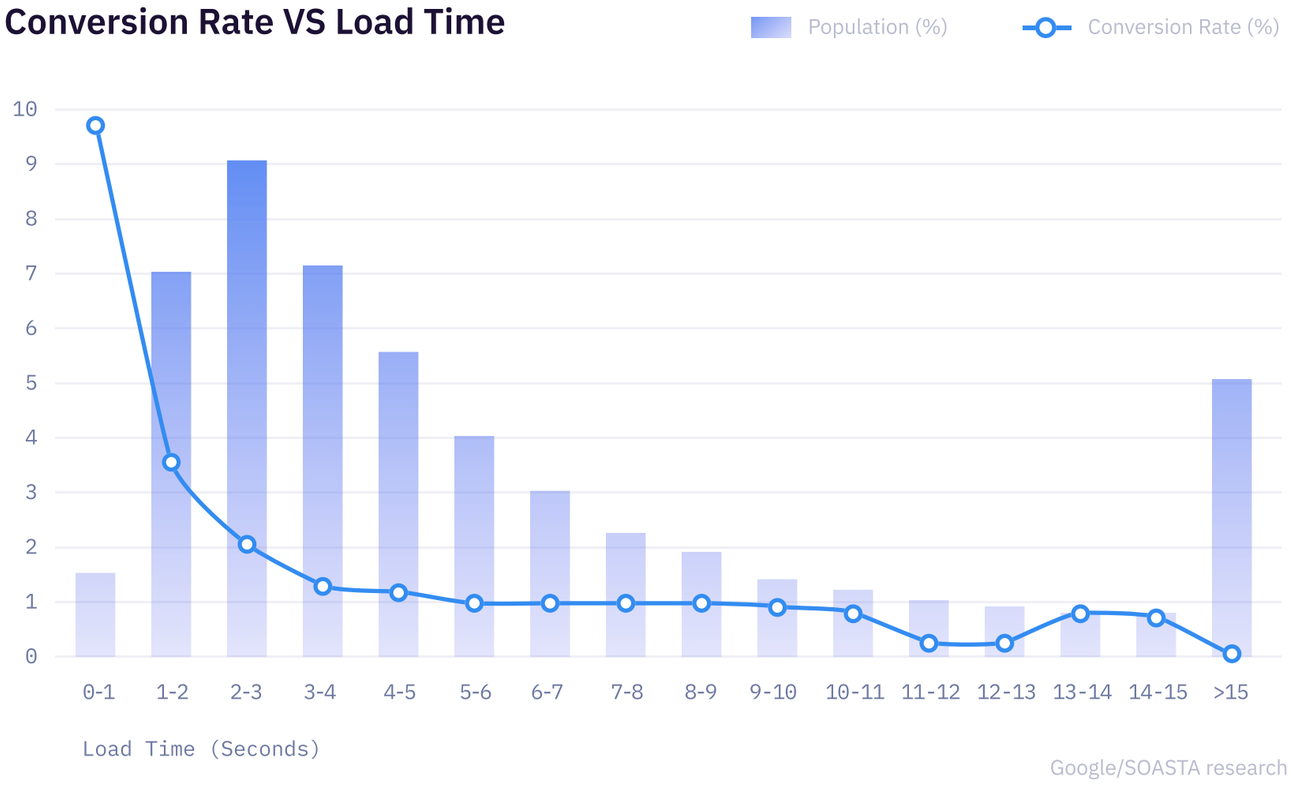
Fortune 50 Site Speed Improvement Case Study

Introduction

Much has been documented about the effect page latency has on e-commerce performance in terms of site engagement, conversion rates and revenue. Since Google began incorporating page speed (and more generally, user experience) into search engine rankings, many organizations have prioritized their websites' performance, especially on mobile. However, third-party javascript continues to be a key contributor to page latency. If an organization wishes to remove this latency by removing the offending javascript (tags, pixels, etc.), they are often faced with a dilemma consisting of three options:

1. Remove tags from the page completely (to the dismay of those who rely on tools or logic that require tags)
2. Do nothing and focus on other optimization levers (knowing third-party tags will still impact the performance metrics that marketing and analytics teams are trying to improve)
3. Optimize the tags themselves and/or implement limited server-to-server tracking, to varying levels of complexity and success. (Though meaningful site speed delays, caused by third-party code, will still persist.)

Conversion Rate VS Load Time



Google/SOASTA research 2017

MetaRouter offers a new type of solution – one that not only optimizes a given tag, but completely replaces it with first-party data processing and server-side event tracking. The value proposition is clear: by removing third-party javascript, organizations can optimize processes that often cause hundreds of milliseconds, if not full seconds, of page latency.

Is this hypothesis true? We set out to find the answer with a Fortune 50 retailer.

Background

Before diving into our findings, there are a few key concepts to discuss first.

The first concept is the relationship between page load time and performance metrics. There have been multiple studies conducted that infer a strong correlation between page load time and key metrics like conversion rates and sales.

- Ron Kohavi documented in 2007 that Amazon experienced a **1%** sales decline for every **100ms** of increased page latency; in 2013 he found that improving page speed by **100ms** resulted in a **0.6%** revenue improvement.
- In 2012, Walmart documented that a **100ms** improvement resulted in a **2%** increase in conversions and **1%** improvement in incremental revenue.
- In 2017, Akamai presented two key findings: **100ms** page load delay could hurt conversion rates by **7%**, and an increase from **~1.5s** mobile load speed to **~3s** resulted in halving conversion rates from **~2%** to **~1%**, with further declines and page load time increased.
- In 2020, Deloitte found that a **100ms** mobile page load improvement led a **1%** conversion rate improvement.

The point should be clear: page latency has a substantial and consistent impact on performance metrics and the potential revenue that drive ROI for retail organizations.

Methodology

The Fortune 50 retailer described here wanted to ensure that removing third-party tags with MetaRouter had a meaningful impact on their page latency. Specifically, they measured success by onLoad time, which is defined as "when the processing of the page is complete and all the resources on the page (images, CSS, etc.) have finished downloading" by GTmetrix. The onLoad metric plays into common SEO factors such as First Input Display and Largest Contentful Paint, and also allowed them to tie their findings to common case studies that associate page latency to conversions, revenue and other key performance indicators.

After partnering with MetaRouter to ensure that tag replacement did not result in any vendor disruption, this retailer removed tags in a controlled, one-by-one basis, from their website. After each tag removal, they assessed the impact this had on their website.

Results

The specific page latency improvement varied by tag; however, **third-party javascript tag removal resulted in up to 200ms onLoad() time improvement per tag.**

Additionally, this retailer documented a second benefit- for the vendors that were previously sent data by their third-party tags, those tools saw up to 30% additional events collected, indicating that anti-tracking, ad blockers and browsers were likely preventing many events from reaching vendors entirely.

Analysis

Considering that the average e-commerce website uses 40-60 third parties, gaining between 50-200ms per tag removed represents a massive competitive advantage for this retailer. Removing a dozen or more tags could represent entire seconds of cumulative latency gain. When even 100ms could improve revenue by 1%, removing tags with MetaRouter can represent multiple percentage points of revenue improvement.

Let's look at a conservative scenario:

- Let's assume a single javascript tag introduces 150ms of page latency, on average
- An organization wishes to remove six javascript tags
- Though every 100ms of latency reduction contributes roughly 0.5% incremental revenue*, let's assume a compounding discount of 25% per tag, due to possible diminishing returns.

In this scenario, a company that does $10B revenue of e-commerce revenue would see 900ms of cumulative latency reduction, 2.47% revenue improvement, and $246MM of incremental annual revenue. **And that's only for six tags- the average e-commerce website utilizes 40-60 third party tags.**

**Revenue improvement depends on a significant number of variables, of which Page Latency is a contributing factor*

$10B
E-commerce Revenue Company

latency reduction
900ms

revenue increase
2.47%

annual revenue improvement
$246MM

Conclusion

While removing third-party tags and continuing to use third-party tools was nearly an impossible endeavor in the past, MetaRouter has pioneered an entirely new web performance optimization lever, which can unlock millions of dollars of revenue for enterprise e-commerce organizations.

By combining the robust data that exists on the page latency topic with our own customers' experiences, we can confidently conclude that MetaRouter can help your organization improve your customers' experience with your website, and ultimately drive meaningful incremental revenue for your organization.

Want to chat more about this study and how MetaRouter can help your organization improve its web performance?

Send us a note a hello@metarouter.io