



How to Stop Webpage Speed from Killing Your Marketing

Don't keep your online visitors waiting.

WHITE PAPER

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In this whitepaper you will learn:

- How slow website performance impacts your marketing efforts
- How current methods addressing web download performance are not enough
- How front-end acceleration can speed website downloads for any device

You've just launched a finely-crafted marketing campaign with high hopes of delivering thousands of visitors to your website, with the end goal being strong engagement and conversion to lifelong customers. However, slow website download speeds may be robbing you of marketing success, and causing lost revenue. Even the most well-written, high-impact web content coupled with a persuasive landing page can be lost on the fact that users abandon slow websites before they engage in any meaningful way.

Web visitors have certain expectations about how quickly a site should load. For browsers running on desktops or laptops, the speed expectation is very high. Any download longer than a second or two can cause a visitor to click away in frustration. And mobile users now expect a desktop-like experience from anywhere and at anytime.

Many companies have taken steps to optimize their website by placing website content on a content delivery network. They have likely taken other steps as well to optimize their web code, including the reduction of overall site density to improve download performance. However, in today's hyper-connected world, with increasingly complex and dynamic web content, a fast network is not all that's needed to ensure marketing success with your customers.

The last hurdle in your web content's journey to the end user is through the timeworn browser, which content delivery network connectivity alone doesn't address. The speed at which a browser loads your web content (on either a desktop, laptop or mobile device) can mean the difference between customer engagement or abandonment. The browser then must be considered the last critical component in the path of web content delivery, having a considerable impact on the results of your marketing activities. It's time to take another look at the browser to understand where key delivery bottlenecks still exist and how to mitigate them.

Don't Fight the Trend

Statistics show that every second matters when a user reaches your web or mobile site in determining whether they turn away due to slow page speed, or stay and become a satisfied customer. A study by the Aberdeen Group¹ estimates that a one-second delay in page load time can result in a 7% loss in conversions, 11% fewer page views, and a 16% decrease in customer satisfaction—providing evidence that optimizing how quickly your site loads on a desktop or mobile device can have a significant impact on engagement, response, conversions, and sales.

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The typical consumer now has a range of connected computing devices that they use during the day including laptops, desktops, tablets and their smartphones. Users expect performance to be the same across all engagement platforms. They want a seamless web experience as they move from their laptop to their Apple iPad. The challenge for marketers is to create a similar experience delivering the necessary and appropriate content across all connected devices—with mobile devices being the most challenging. Mobile devices have smaller screens and typically slower connection speeds which require highly sophisticated browser-detection software to dynamically prioritize and accelerate mobile content.

Abandonment rates are still fairly high with mobile devices due to the fact that performance expectations are also high. In a 2013 survey of Limelight customers conducted by TechValidate, 52% of respondents said that consistent access to websites from any end user device was a key requirement for effective web performance. Seventy-four percent said mobile device access was important because much of their content is targeted to mobile users. These trends demonstrate that mobile users not only want sophisticated content, but they want it delivered quickly. As shown below mobile site abandonment remains high.

Mobile Site Abandonment

All of these trends in consumer technology make webpage download speed a critical factor in the success of campaign performance. If a user can't find the information quickly on your site or their search is inhibited by slow download performance, they will go elsewhere. The "elsewhere" is likely to be a competitive site that can provide the content and download speed that visitors expect. The result for a company whose website is slow will be a loss of engagement, slower Time to Action, and decreased sales.

Download Speed is an Inhibitor to Marketing Success

Similar to diagnosing a medical condition, the marketer will want to look at certain symptoms that may be manifested when a marketing campaign does not achieve its desired result. The marketer will likely first review the content and messaging of their campaign to ensure that these are aligned with the intended audience. If the message is off or the positioning is not quite right, the campaign will usually fail to gain traction.

The marketer will also benefit from this evaluation by looking at web metrics. Web statistics provide valuable clues as to "what" is happening on your site in terms of bounce rates, abandonment, and slow conversions. Web statistics and analytics provide good information about how successful a campaign is from a visitor count/activity perspective. The hourly, daily, weekly, monthly, and yearly comparisons can provide a wealth of data on how your customers are responding to your marketing efforts.

There are four ways slow download speed manifests itself when considering effectiveness of marketing campaigns. These include increased bounce rates, slower Time to Action, increased abandonment, and lower conversions:

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High Bounce Rate

Web statistics do not always answer “why” certain web behaviors are occurring. To see that your site has a high bounce rate could be a factor of imprecise messaging on your home page, for starters.

Someone may be searching for a particular product or service and your site appears in their results due to keywords you’ve selected or ads you’re displaying on search engines. But, when a user lands on your site they immediately see that you don’t have what they’re looking for and they click away. Assuming your messaging is correct and your keywords are accurate, it is vital to take a closer look at website download speeds as a contributing factor to higher bounce rates.

Another key factor contributing to high bounce rates is slow download speeds, especially for mobile site downloads. A user may initiate a visit to your site and because the home page takes too long to load, they abandon the site almost right away.

Slower Time to Action

Time to Action is the time it takes for a visitor to first engage with content on your site. Therefore, the order of how content is delivered through the browser, along with the right objects being delivered first, has an impact on whether someone engages quickly with your site or not. Ultimately, it matters more how quickly a user is engaged than it does how fast an entire page loads.

Measuring Time to Action can best be achieved by using optimization tools as discussed later in this paper and performing A/B testing; sending some visitors to the optimized site and some to the original site will provide valuable information on how visitors react to the loading different objects at different times and how they respond to overall faster site downloads.

Increased Abandonment

Site abandonment can occur for any number of reasons and at different points along their visit. Some visitors will get all the way to checkout and then click away simply because they are comparison-shopping. Others may find your shipping and handling charges to be too high and so they click away.

Slow website speed is also a very likely reason that websites are abandoned. Visitors get discouraged if they have to wait too long for a page to load and so they abandon the site. Consumers do not want to wait—they want to immediately begin interacting and this means the ability to immediately begin viewing, searching, clicking and transacting on a site. Slow page speeds especially during the “secure” phase of the transaction can give consumers the opportunity they may be looking for to back-out of the transaction.

We all know rich content such as video and high resolution images provide the detailed information that consumers need when researching products they are looking to buy. The dilemma is that this rich content can lead to slower page loads.

Fewer Conversions

A conversion occurs when a visitor takes any type of action on your site. Conversions can be measured as a percentage of total visitors, a percentage of qualified leads, and so on. The ultimate goal of any marketer should be to see conversions go up. So, whatever steps can be taken to increase conversions should be considered.

Perhaps your site is already seeing a good flow of visitors, but you are failing to convert them to buyers. Among other things (such as providing engaging and relevant content), download speed could be a factor that is impacting your conversions. Do your visitors drop off because your site is too slow to load?

How to Stop Webpage Speed from Killing Your Marketing

Traditional Methods to Improve Web Performance

First, Middle and Last Mile – Exert Real Control

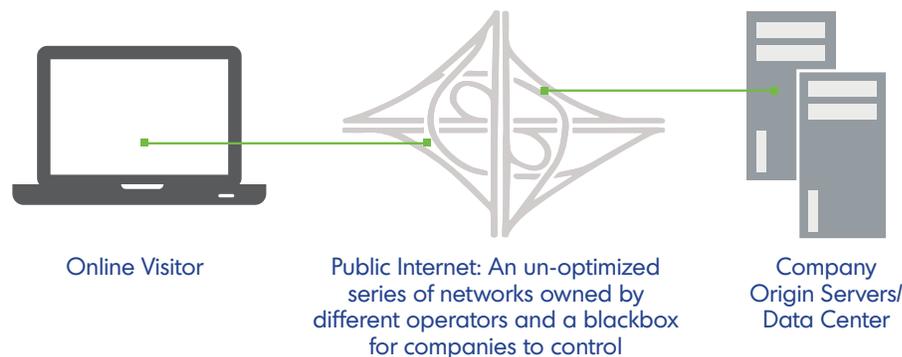
To begin to understand how to increase the performance of your digital presence, you have to understand the vast network where it lives. When you're not partnering with a content delivery network (CDN), the "network" is composed of two distinct segments: the last mile and a vast, un-optimized stretch of the public Internet.

The last mile is when content and content requests travel between a user's Internet Service Provider (ISP) to their browser. Before the last mile, there's the stretch of the public Internet that your content travels over before it reaches your website visitors. And that stretch is long and complicated, and more often than not, a blackbox to you.

It's made up of overlapping networks and carriers to support long haul, regional and metro traffic. Think of it as intercontinental freeways, highways and city streets, all owned by different transit systems. And dispersed throughout these different transit systems are Internet Exchange Points (IXPs), where these different networks agree to exchange traffic. Depending on where your online audience is located, there may not be a direct route between your origin servers to your website visitors. That means your content may be routed across different networks at these IXPs to get to your website visitors.

And even if there happens to be a direct route between your content and your website visitor, those freeways, highways and city streets can be get pretty crowded, with multiple bottlenecks, depending on which network your content is crossing. This is especially true during Internet peak hours or when there are big events like the Olympic games, elections, new mobile applications updates, etc. that have everybody online.

That's the longest part of the journey for your content and data to travel before reaching your website visitors....and one that you have absolutely no control over, without a CDN.



So what does the network landscape look like when you partner with a CDN? To begin with, instead of two segments of the network between your content and your website visitors, there are now three distinct segments: the first, middle, and last mile.

The first mile is from your content origin servers to your CDN's nearest edge servers. That means that your CDN's edge servers are right next to your origin servers. And first mile bottlenecks (the ability of your origin server to scale to meet your website visitor demands, like TCP/IP connection terminations, content compression, etc.) can be addressed by server offload strategies. And you control it.

How to Stop Webpage Speed from Killing Your Marketing

The middle mile encompasses the CDN backbone between edge servers. So, instead of a series of intercontinental highways, freeways and city streets, controlled by different owners, you now have a single, private expressway. Instead of massive streams of data and content moving back and forth across disparate networks each time a website visitor requests a web page, a video, or an app download, data now gets sent to your CDN and kept at the edge of that network, closest to your user. So, when it's requested, your content doesn't have as far to go. And you control it.

Chances are, you probably already have standard web performance solutions in place that enhance the last mile experience, like focusing on browser load times and WAN optimization. But it's time to think about all segments of the network – individually and together. Partnering with a CDN gives you more control over the three areas of network connectivity – that first, middle and last mile. This allows your team to apply strategic optimization around bottlenecks, from first byte to network performance, because you control the whole content journey.

Limelight Network Solutions

Limelight has two key solutions to help you with your website performance issues. Limelight Orchestrate Platform is a global private network that ensures our customers get their content into the right hands, in the right format, at the right time anywhere in the world. Orchestrate Platform combines services, architecture, and infrastructure to move content from you to your customer – at the speed and performance you require. Your customizations and our optimizations work together to create awesome user experiences.

We have massively provisioned delivery centers, interconnected via a privately owned and operated fiber-optic network and communicating directly with more than 700 user access networks around the world. Core technologies and an advanced software layer fortify this time-tested infrastructure — accelerating the entire delivery path, from origin to the edge, while assisting a better last mile by serving content close to the end user. It can survey conditions on a request-by-request basis and making on-the-spot delivery decisions, achieving the best possible user experience under any circumstance.

And when you couple our Orchestrate Platform with our Limelight Web Acceleration Services users will experience digital content like never before. Web Acceleration Services leverage network level technologies to speed delivery across devices, from the cloud to users worldwide. And it scales to changing traffic patterns – so you can respond to sudden traffic without additional infrastructure. It optimizes to the last bit for specific browsers including Chrome, Firefox, Internet Explorer, and Safari. Under the hood is a powerful content delivery network, designed to drive performance at every turn. Advanced software analyzes our global data centers and a fiber-optic backbone to identify the quickest way to connect users with your content.

About Limelight Networks

Limelight Networks (NASDAQ: LLNW), a global leader in digital content delivery, empowers customers to better engage online audiences by enabling them to securely manage and globally deliver digital content, on any device.

For more information visit our website at <https://www.limelight.com>.

¹ The Performance of Web Applications: Customers are Won or Lost in One Second, Aberdeen Group, 11/30/2008

² Survey conducted by Tech Validate for Limelight Networks



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