

# Website performance



Have you thought of everything?



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Good website performance influences conversion rates, SEO, brand experience and awareness as well as an organization's carbon footprint. No matter how beautiful or complex your site is, no matter how effective your campaign, it would be a shame if your initiatives were compromised because your hosting services couldn't fulfill demand.

Recorded traffic over Thanksgiving weekend increased by 7.4% in 2018 compared with 2017 amongst the 100 largest American retailers. On Black Friday it increased by 10%. For these two periods, 52.4% of the traffic came from mobile devices.

SimilarWeb, 2018

# Is your site ready to respond to your next increase in traffic?

This guide is addressed to technical and marketing teams. It aims to equip you with the tools to handle periods of heavy traffic on your digital platforms. It will also provide you with strategies to optimize your site performance, improve your conversion rate and achieve your marketing objectives.



Do you get the most out of your marketing efforts? Investments in big campaigns need to be supported by solid infrastructure and well-defined processes. Let's pause and take a step back to talk about data.

# Who is Éric Briand?

As a partner since he first joined Sid Lee, Éric spearheads its technological direction, which enables him to stay on the cutting edge of the industry. His considerable mastery of digital challenges and understanding of the key elements of a problem make him an unrivalled strategist.

“Don’t wait for problems to arise to start thinking about your site’s performance.”

— Éric Briand



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Section — A

# Questioning your current structure



You don't have to be an expert to look into your website performance. Online tools (such as [GTmetrix](#), [Browser Diet](#), and analytic reports like [Google Analytics](#)) can quickly paint a picture of your particular situation. Do some testing! A self-evaluation session will provide a helpful foundation to start a dialogue with your technical and/or marketing teams.



## 8 signs of poor performance

*Noticing that some of your pages are slow.*

*A major gap between the number of clicks on media/the campaign and the number of pages viewed/sessions.*

*Shorter than normal intervals of time spent on the site or a reduced number of pages viewed — possible signs of hasty withdrawal.*

*A major gap between the number of sessions initiated and your conversion rate.*

*A landing page loading time of more than three seconds.*

*A higher-than-normal bounce rate.*

*An increase in the number of negative comments and/or complaints from your customers or employees.*

*A reduction in revenue from online sales.*

## 3 questions to ask yourself before launching your next campaign

*In the event of a failure or degradation in your digital ecosystem's performance, what will the effect be on your brand or campaign results?*

*Have you tested your site prior to an expected increase in traffic for your upcoming campaign?*

*If so, how do you know if the results are correct?*

*If not, how should you get started?*

*What is your level of risk tolerance in case of a slowdown or breakdown in your systems in the middle of a marketing campaign?*



*A broken site due to a system breakdown is a bit embarrassing...*

Your site exists first and foremost for your customers. This means that their experience should be your FIRST priority.

Section — B

# Preparing for increased traffic



Are you preparing a marketing campaign or revamping your website? Have you set aside a portion of your budget for site monitoring, analysis and optimization to ensure these can adequately support your project? If so, at least 10% of your budget should be devoted to performance optimization and evolution.



## Loading times can cost you

Quick and efficient user experience is now essential to the success of your digital activations. You must never underestimate the effect of a bad experience on your sales and user opinions of your brand.



Use the following site to calculate the potential impact a website performance improvement could have on your sales:  
[Think with Google.](#)

Almost **70%** of consumers admit that page load speed influences their desire to make a purchase with an online retailer.

Unbounce, 2018

Close to half of consumers state that they would try to refresh a page at least once after waiting three seconds for it to load; **22%** would close the tab and **14%** would navigate to a competitor's site.

Unbounce, 2018

An increase of 1 second in loading time could lead to a **26%** reduction in your conversion rate.

Akamai, 2019

On mobile devices, loading time for a standard page is **5x** longer. If you're paying for clicks, you're spending money on users that will never see your content.

Unbounce, 2018



# The seven keywords of good infrastructure

## 01 — Collaboration

Collaboration and the exchange of information amongst technical and marketing teams are essential when trying to optimize performance. The teams should discuss your campaign's targets, expected traffic increases, media buys and future partnerships to come up with an effective solution.

## 02 — Measurement

Performance is measured systematically on analytics platforms. You need to know how to interpret the data in order to draw relevant conclusions that will help you to make the right decisions. Compare your results not just to the industry average, but also to your own past performance and internal standards.

## 03 — Planning

In the case of campaigns or spikes in traffic, know how to anticipate unusual traffic. Even if you think that your server performance is good, you might still be flirting with disaster without knowing it. An outage in the middle of Cyber Monday, or when you advertise or launch a new product, could be bad... really bad.

## 04 — Monitoring

Be proactive with application performance management. Monitor every system component by establishing a solid analytic and optimization structure. This will allow you to quickly detect performance issues, for which you can then develop an optimization plan.

## 05 — Adaptability

Consider all the possible uses of your site while testing scenarios: languages, devices used, web browsers, with or without authentication, etc. Fluid, stable functioning during a particular scenario doesn't guarantee your site's overall performance.

## 06 — Minimalism

Deliver and activate the tools that really matter and focus your efforts on what provides the most added value. On average, every site uses around twenty measurement and marketing tools. They can't all be necessary. Keeping them in place, whether they're activated or not, will definitely have an effect on performance.

## 07 — Optimization

Launching a web project or mobile app is the beginning of an adventure, not the end. Expect a continuous optimization process to maximize the quality of your user experience. Analyze today, analyze tomorrow and, to make things easier, consider automating your optimization tests.

“On Black Friday, it will be too late to realize that your site isn't performing well enough to handle your business goals and customer needs.”

— *Éric Briand*

## Section — C

# Managing the technical aspects

Every visit through your application generates resource use on your servers. Your capacity to receive a certain number of visitors at the same time is related to your architecture's ability to perform and your infrastructure. Slowdowns or outages are often caused by overloaded services. Sometimes the issue stems from your software or logic, a service that is too basic to handle your needs or traffic increases, or the need to adjust your configurations. But most of the time this happens when you've hit the limit on your servers' physical capacity (or for your selected service) and you need to review your infrastructure, processors, disk size and I/O performance, memory, or – even worse – your solution architecture, code or data models that weren't created to handle the increased traffic.

*Better performance*

*Better speed*

*More profitability*

Using a cloud-based service isn't automatically synonymous with optimal performance. Ask your technical teams to regularly test its performance to avoid issues.

## Consider the following

### Flexible hosting

Optimize your servers for increases in traffic and opt for a flexible hosting infrastructure, also called auto-scaling. As the application receives requests, active systems study server capacity and respond to demand. In cases of overloading, they temporarily add servers or resources in order to continue to provide service without slowdowns.

### Dependence on external services

In the same vein, if you need to rely on external systems, such as ticketing or online payment services, ask your provider for service and performance guarantees and monitor the state of the systems to which you are redirecting users.

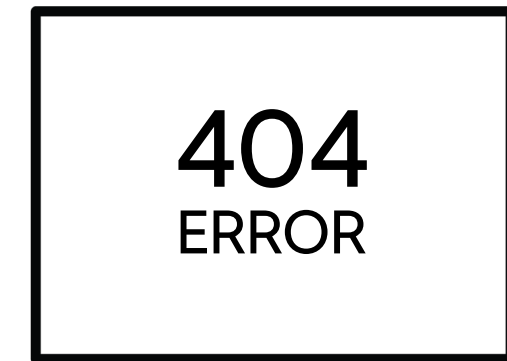
### Plan B (and C, and D)

Evaluate replacement solutions or override plans in cases where budget or time doesn't permit the analysis of, optimization of and adherence to Plan A. For example, consider establishing a waiting list that activates if you get an overflow of traffic, temporarily increasing the capacity of your servers/hosting services.

### Oops — server unavailable!

When everything suddenly gets slow or, even worse, when your site stops responding, it's better to redirect customers to an elegant error page rather than a simple "System error, server not available" message. Personalize the content of error pages and steer your visitors to this page in cases of major slowdowns or when overloads prevent servers from responding to demand.

**Don't take your application's performance, reliability or security for granted. Play defence by checking it through loading tests**



**When considering performance optimization, think about the expected user journey from beginning to end. Aim for an appropriate loading time for every page and function, not only for your site's homepage!**

# Acronyms

A few indicators to keep an eye on

## KPI — Key Performance Indicators

Measure the success of your digital initiatives (visits, number of pages viewed, conversion rate, retention and rebound rates, etc.), but also add indicators related to application performance and service quality: loading time for pages on servers, error rate, service availability, outages, etc.

## TTFB — Time to First Byte

Time to First Byte is a measurement used to indicate a web server's reactivity or the reactivity of another network resource. TTFB measures the length of time between the moment the user makes an HTTP request and the moment the first byte is received by the customer's browser.

On average, a TTFB less than 100 milliseconds is amazing. Everything between 200 and 500 milliseconds is normal, between 500 milliseconds and 1 second is less than ideal, and anything over 1 second should trigger a deeper investigation.

## PLT — Page Load Time

Page Load Time is the time it takes to download and display all the content of a webpage in a browser window. Given that visitors are impatient, companies should aim for a PLT of around 3 seconds.  
Mobile < 3 seconds

## ARC — Average Request Count

Average Request Count enables you to measure the capacity of a server to handle a certain number of simultaneous requests without failing. For example, if each page is requested an average of 25 times, and the site serves around 1,000 pages an hour, we get an average of 25,000 requests per hour. Once you know this figure, you can ensure that your server will be able to respond to demand.  
Mobile < 50 items

## APWB — Average Page Weight Bytes

Average Page Weight Bytes refers to the average weight of a page on a site. With this measurement you can calculate whether the network can sustain a specific number of requests.  
Mobile < 500k





# Even more acronyms!

## Tools and approaches

### *APM — Application Performance Management*

Use an approach and tools to measure and analyze the overall performance of your digital projects. Alerts and monitoring allow you to handle situations before they get worse. With these tools, when failures and anomalies are detected, you can immediately implement the solutions you came up with for your Plan B.

### *CDN — Content Delivery Network*

Accelerate the delivery of content on your sites by using a CDN service (such as Amazon CloudFront, Azure CDN, Akamai), which orchestrates content delivery by creating geolocated copies of your content. This is a good practice even if you don't have international customers. By localizing your data, you accelerate content delivery and lighten the load on the originating servers.

### *PLT — Performance Load Testing*

Performance tests enable you to verify the performance of system components by transmitting various parameters for different loading scenarios. Performance testing tools can help you determine the speed, efficiency, reliability, scalability and interoperability of your systems, networks and platforms.

### *AMT — Accelerated Mobile Pages*

AMP is a simplified HTML framework, supported by Google, that helps your content load almost instantaneously. It contributes to improving the conversion rate and visibility of your marketing initiatives with superior quality scores.

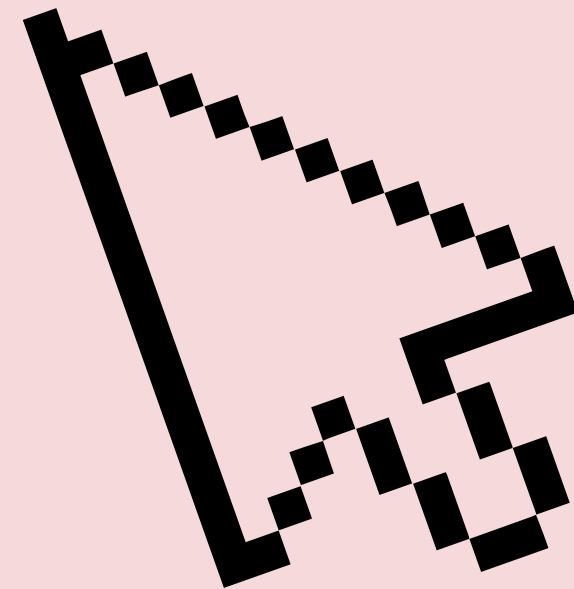
“Just like with our health, when it comes to performance, we often only react when something goes wrong! Everything seems to be fine, but underneath what is visible to the consumer, the error logs keep getting longer. One error, even if it doesn't have an immediate, perceptible impact on the solution or on performance, can turn into a source of contamination and become amplified during periods of heavy traffic.”

— *Éric Briand*

On average, how much do you spend every month on marketing tools and digital advertising? How much latency does that generate on your website? The more tools you activate, the more you pointlessly overload your infrastructure. On the other hand, certain marketing tools are underused and could contribute to improving your campaign performance. Do you know which ones? Consider periodically reviewing the list of tools you use and challenging their relevancy.

Section — D

# Rethinking your marketing efforts



Based on your history of traffic during similar marketing offensives, consider your usual traffic. Perform this exercise independently of the campaign.

## 6 tips for getting the most out of your platforms

### 01 — A/B testing

When creating your content strategy, compare several versions of the same creative piece or landing page. Validate which one performs better and then use it for all visitors for the rest of the campaign.

### 02 — Landing page

A landing page created specifically for a campaign will contribute to an increase in your conversion rate. It responds to a specific objective and promises a more targeted online brand experience. Eliminate the noise and smooth the path to conversion.

### 03 — Segmentation and personalization

Personalization and segmentation tactics adapt the message according to available data on your target customers. Not only will you optimize your media budgets, but you'll also increase your campaign performance.

### 04 — SEO strategy

This planning is necessary for the success of any digital initiative since it ensures improved organic referencing. It will reduce your media investments and help you to achieve your objectives.

### 05 — Disaggregation

When possible, try to control the flow of your marketing efforts. Avoid talking to all your customers at the same time and favour a progressive method to deploy your campaign. You should also be aware of marketing pressure, meaning the frequency at which you communicate and its sequencing.

### 06 — Monitoring

Continuous tracking ensures that everything proceeds normally and that the best elements are in place to help achieve your objectives. To liberate the full potential of your digital initiatives, ensure that each initiative is accompanied by a measurement plan that is realistic and based on concrete business objectives. This way you can better evaluate the success of your marketing efforts and deduce learnings that can be used to help prepare your next campaign or optimize the one already underway.

## The calm after the storm: Follow-up

Thanks to the data you collected during the campaign, you can objectively evaluate the success or failure of your initiative. Gather your technical and marketing teams around the table and perform a thorough assessment to derive lessons that will improve your results next time.

## Section — E

# Performing in an eco-friendly way

Is your performance environmentally friendly?  
Is your website carbon neutral?

Did you know that data centres, devices and communication networks produce significant carbon emissions?

**2%** of the world's carbon emissions are currently produced by the Internet, which is equivalent to the emissions produced by the aviation sector.

*The Guardian, 2015*

By 2030, **3.5%** of carbon emissions will be produced by Internet-connected devices, **14%** by 2040.

*The Guardian, 2015*



Every online activity involves data consumption. With the rapid evolution of our online behaviour (driverless cars, high-definition video, etc.), a vast network of data centres is being developed just as quickly.

Gary Cook, an IT analyst with Greenpeace, confirms that only 20% of electricity used by data centres is renewable. The remaining 80% of energy comes from fossil fuels.

Experts estimate that the quantity of energy consumed by the world's data centres will triple over the next decade. This will put a strain on our energy supply and be a hard blow in our fight against climate change.

## Factors that impact a website's carbon footprint:

- Duration of visits
- Type of device used to access the site
- Type of server used to host the site
- Amount of traffic

## Solutions:

- Optimize your site's code for better performance
- Reduce the weight of your images and videos
- Migrate your site to the cloud and encourage virtualization
- Use fewer servers or get flexible hosting
- Choose a provider that offers services and data centres supplied by renewable energy

# Website failure?

**Never** (or almost never)

## The benefits of good performance



- Increased conversions
- +
- Higher performing SEO
- +
- Enhanced brand experience
- +
- Reduced carbon footprint

### How we can help

With over 900 experts in a multitude of disciplines, we’re a versatile partner in guiding and supporting your IT and marketing teams in the achievement of your objectives. Availing yourself of our knowledge and expertise ahead of time, and you’ll become more autonomous.

### Sid Lee’s multidisciplinary approach

Not only are we able to make recommendations regarding scenarios to plan for and solutions to put in place, but we also have the experience to interpret data in a precise way, establish performance tests that respond to different expected traffic scenarios and validate the limits of your infrastructure. And to your campaigns, we offer active monitoring and optimization services

**No matter your sector of activity, an unplanned increase in traffic or anemic performance will compromise the success of your campaigns, diminish your revenue and change customer perception of your brand.**

**Luckily, there are many solutions! Some are simpler than others, but with the right tools, nothing is impossible.**

[Contact](#)

“Thanks to all of our services,  
we have the ability to help your  
company perform and innovate.”

— *Éric Briand*

You have questions? We have answers.

Contact Éric Briand, Corina Boland or Meg Pedrick

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