September 2024

catchpoint

Catchpoint Industry Benchmarks

Athletic Footwear and Apparel Website Performance Benchmark Report

Which brand takes the gold in web performance?

Is your favorite brand leading the race in web performance?

The eCommerce race is more intense than ever, especially in athletic footwear and apparel, where every millisecond counts. As more consumers shop online, speed and performance are key to winning their loyalty and driving sales. In fact, an IBM study of 15,000 Gen-Z consumers found that 60% will not use an app or website that is too slow to load, and Amazon discovered that every 100ms of latency cost them 1% in sales.

Catchpoint has benchmarked the performance of leading athletic footwear and apparel websites. Our aim isn't to pick winners and losers or point the finger at brands with slower sites. Instead, it's to learn about the range of customer experiences being delivered, identify areas for improvement, and spark a conversation about best practices.

Whether brands are helping you 'find your fast,' proving that 'impossible is nothing,' or making you feel 'born to fly,' one thing is clear: a fast and resilient website is the ultimate competitive edge.

Key takeaways

1. Massive gaps in speed

For the homepage, Time to First Byte (TTFB) values varied by **over 1000%** from best to worst, mostly caused by wait times, likely from CDN cache misses. The disparity was even more significant on search results pages, with a **1,668%** difference between best and worst.

>1000%

difference between best and worst Time to First Byte (TTFB) values for the homepage

2. Less than a third of sites meet recommended load times

Only **23%** of companies met the recommended page load time for the homepage, while **30%** met the standard for search results pages and **36%** for product detail pages.

30%

met the recommended page load time for search results pages

3. Request overload

In the homepage benchmark, Document Complete times ranged from **under 2 seconds** to **over 8 seconds**, far exceeding the recommended benchmark of 3 seconds. This was largely due to excessive network requests—over 450 in one instance—before the onload event.

36%

met the standard page load time for product detail pages

4. Caching for the win

Top-performing sites utilized **effective caching, optimized site configuration,** and **appropriate CDN settings** to deliver superior performance.

23%

met the recommended page load time for homepage

5. Availability issues mean lost revenue

The site with the lowest availability in our homepage benchmark had an uptime of **98.7%**. For a brand with nearly **$2.5B** in revenue, assuming **50%** of revenue is online or influenced by online interactions, this downtime could equate to **$16.25M** in lost sales. This doesn't account for the potential loss of customer trust.

The site with the lowest availability in our homepage benchmark equates to

~$16.25M

in lost sales

Testing Methodology

The performance benchmark was conducted against the following popular sportswear and footwear eCommerce platforms:

Kappa	Under Armour	Skechers	On	Puma
Steve Madden	HOKA	Reebok	Converse	Adidas
Asics	VEJA	Nike		

Testing timeframe:

The tests were conducted between August 1, 2024, 00:00 EST, and August 15, 2024, 23:59 EST.

Locations:

Monitoring from real-world locations is crucial for understanding how users in different regions experience website performance and is a unique capability that sets Catchpoint IPM apart. However, for the purposes of this benchmark, we limited our testing to select locations within the United States to maintain consistency, as many of the tested brands operate different site URLs for each region.

In a real-world situation any large brand would want to monitor from all the key locations where their customers are, using last mile nodes that mirror the real-world experience of their customers. There are surprising differences in performance due to many factors from the obvious (latency and CDN config) to the not-so-obvious (ISP performance and routing).

Monitored pages:

To evaluate the end-to-end user experience, we monitored the homepage, search results page, and product detail page (PDP) for each brand.

Metrics tested:

- **DNS Lookup Time:** Time taken to resolve the domain name to its corresponding IP address. A crucial part of delivering a website is fetching the base HTML, and DNS lookup times play a key role in this.

  Recommended DNS lookup: Ideally, under 100ms, with <50ms preferred

- **Time to First Byte:** The total time from the initial DNS request to receiving the first response packet from the server. It's crucial because it improves user experience, boosts SEO by helping websites rank higher, and identifies performance bottlenecks in server or network infrastructure.

  Recommended TTFB: ~200ms.

- **Document Complete:** Document complete occurs when the browser triggers the onload event, indicating that all necessary resources (HTML, CSS, scripts, images) are fully loaded. A shorter document complete time boosts user satisfaction and engagement.

  Recommended document complete time: ~3 seconds

- **Largest Contentful Paint:** Measures how long it takes for the main content of a page to load. High LCP metrics suggest that users will perceive the website to be loading slowly.

  Recommended standard for LCP: ~2.5 seconds

- **Cumulative Layout Shift:** Measures a webpage's visual stability. Unexpected shifts harm user experience, while a lower CLS score indicates a more stable, user-friendly page.

  Recommended CLS score: <0.1.

- **Page Load Time:** Time until the last byte of the final element on the page is loaded. It's influenced by factors like the number of requests, data size, DNS quality, third-party requests, and asynchronous JavaScript loading.

  Recommended page load time: <5 seconds.

- **Availability:** Percentage of time that the website is up and running. High availability ensures that users can access the site reliably at any time. Downtime can lead to a loss of traffic, reduced revenue, and erode user trust.

  Recommended availability percentage: 99.9% or higher

Testing timeframe: The tests were conducted between August 1, 2024, 00:00 EST, and August 15, 2024, 23:59 EST.

The benchmark included measurements across multiple Internet Service Providers (ISPs) and cities in the United States.

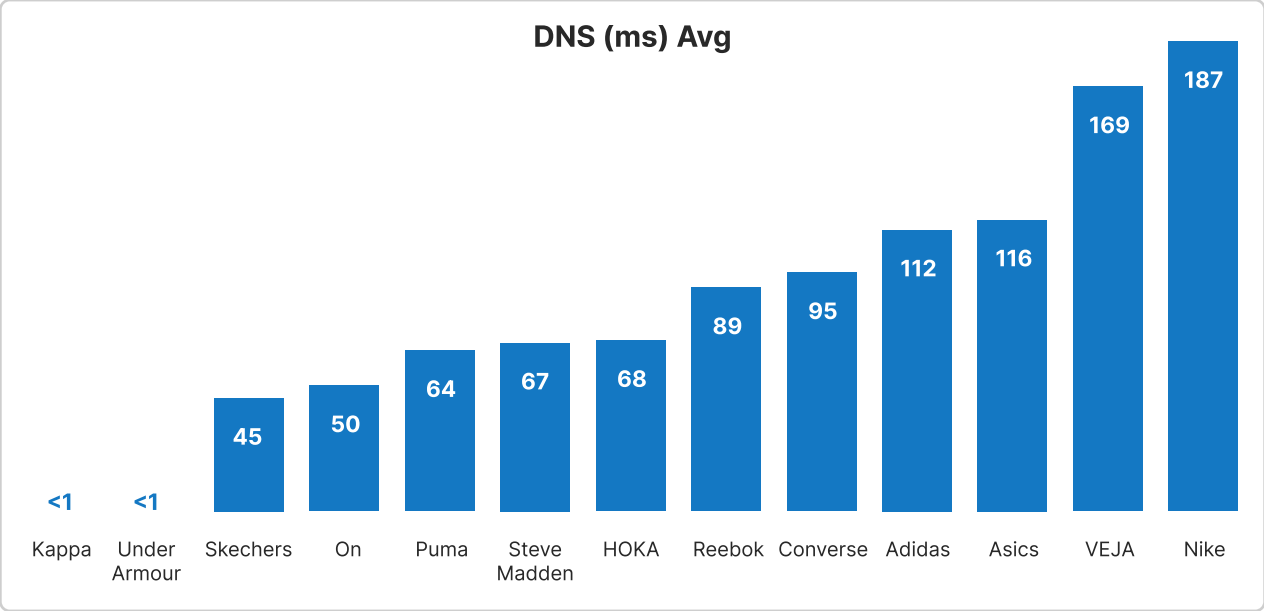
Homepage benchmark results

The homepage is a brand's first impression—and speed matters. A slow homepage can drive users away, while a fast one keeps them engaged and ready to shop. Find out which sportswear brands delivered the most efficient homepages in our benchmark results.

Homepage benchmark summary:

- **Under Armour** and **Kappa** consistently led the pack, outperforming competitors across multiple homepage metrics.
- **Converse** and **Nike** have some catching up to do, with several opportunities for improvement.
- A clear trend is the correlation between the number of requests and overall page load times. Brands with fewer, optimized requests (e.g., **Under Armour**) experienced faster load times, while those with numerous requests (e.g., **Converse** and **On**) saw slower page load times.

1. DNS lookup time



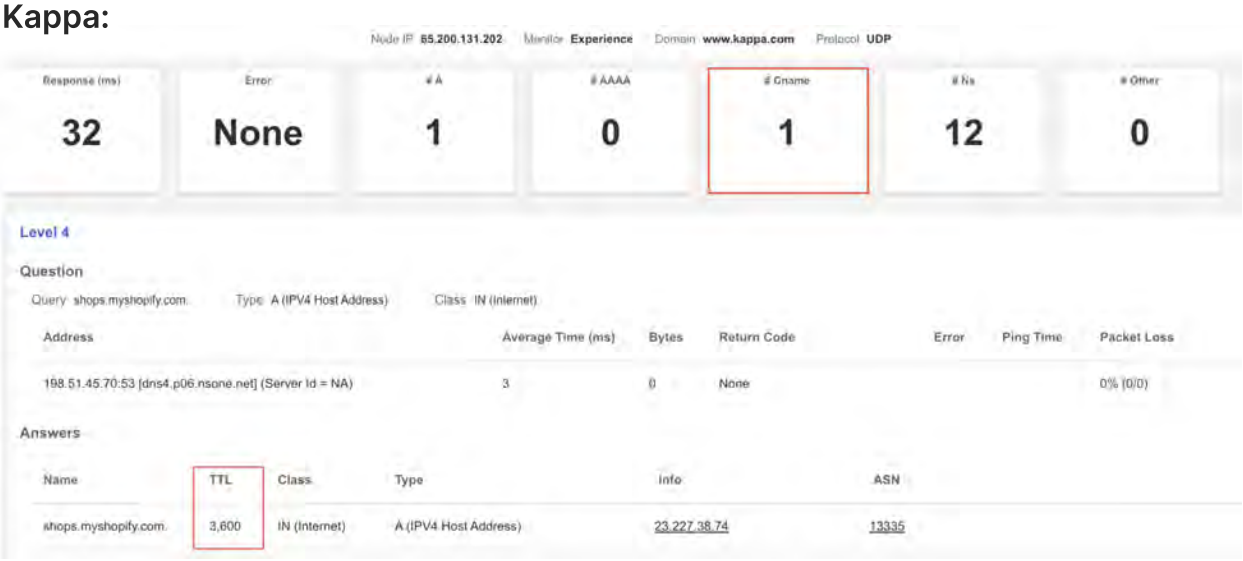
Comparison of average DNS lookup times (ms) for the benchmarked athletic footwear & apparel brand homepages. Recommended DNS lookup: Ideally, under 100ms, with <50ms preferred

Findings:

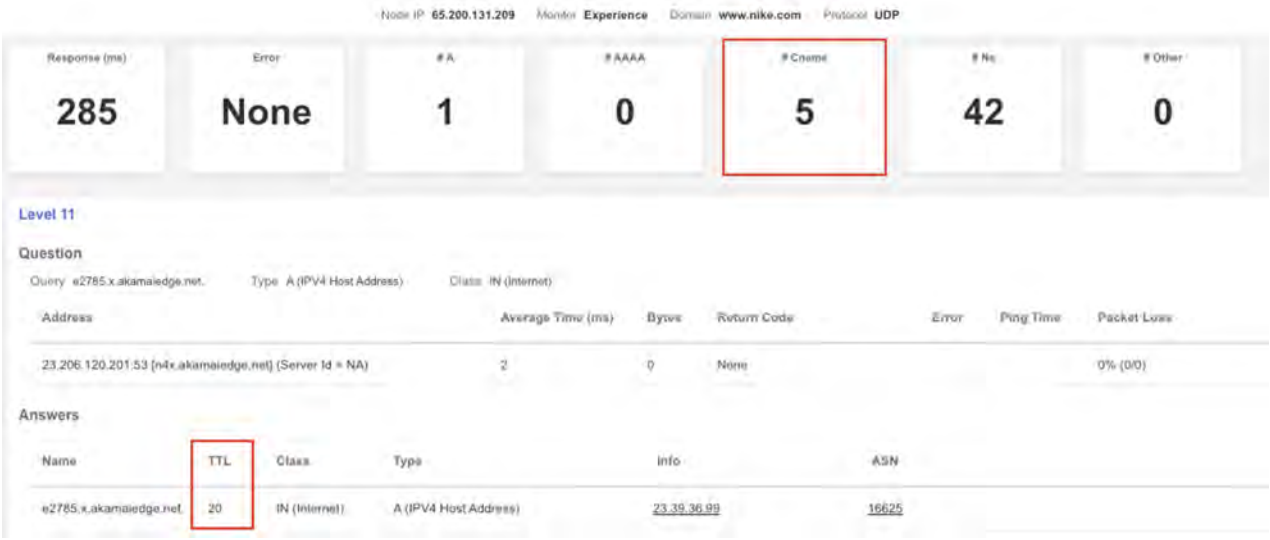
- **Kappa** and **Under Armour** show extremely fast DNS lookup times, speeding up initial page loading.
- **Reebok, Converse, Adidas, Asics, VEJA,** and **Nike** have DNS times near or above 100ms, signaling a need for optimization.
- **Nike's** DNS lookup time of 187ms is a significant performance bottleneck, highlighting an opportunity for optimization.

DNS optimization comparison: Kappa vs Nike

Kappa:



Nike

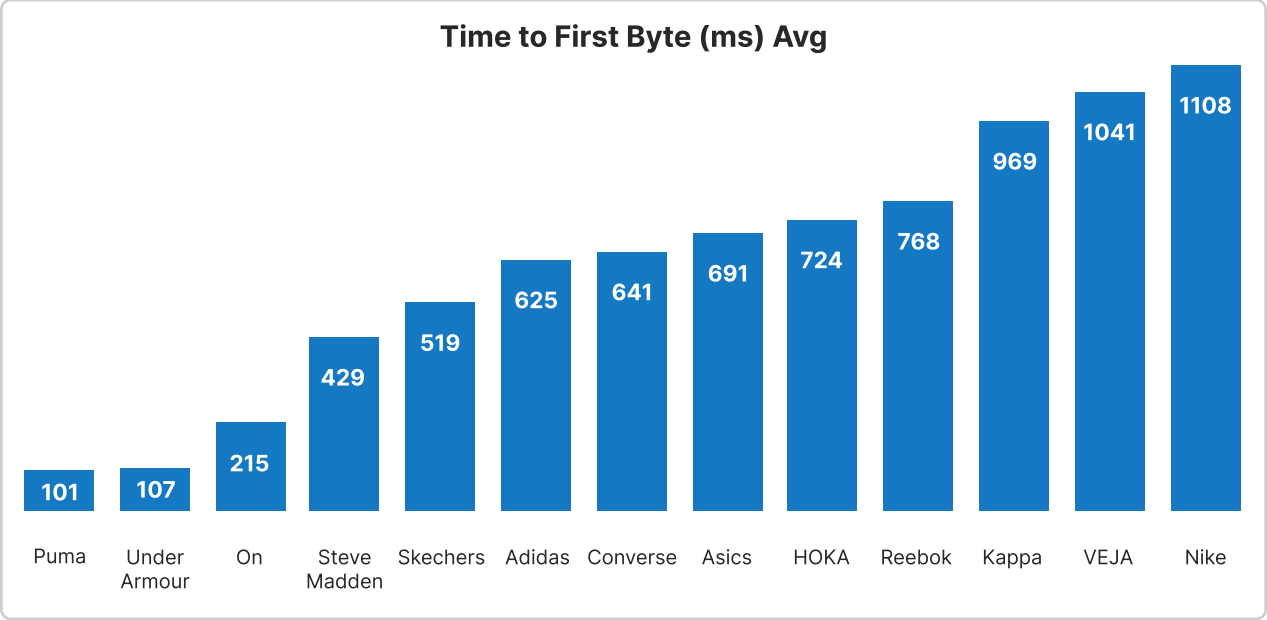


Kappa's DNS records have a high Time-To-Live (TTL) value of 3600 seconds, meaning they are cached by network devices for an extended period. This boosts website performance by speeding up IP address retrieval and reducing how often DNS lookups are needed.

On the other hand, **Nike's** DNS records feature a low TTL value of 20 seconds, causing them to expire more quickly. This may lead to increased DNS lookup times, particularly for users with stale DNS caches.

Additionally, **Kappa's** DNS resolution is simpler because it uses only one CNAME record. Nike, however, uses five. CNAME records function as pointers to other DNS records; therefore, a greater number of CNAMEs requires the DNS server to perform additional steps to locate the final address, potentially prolonging lookup times.

2. Time to First Byte



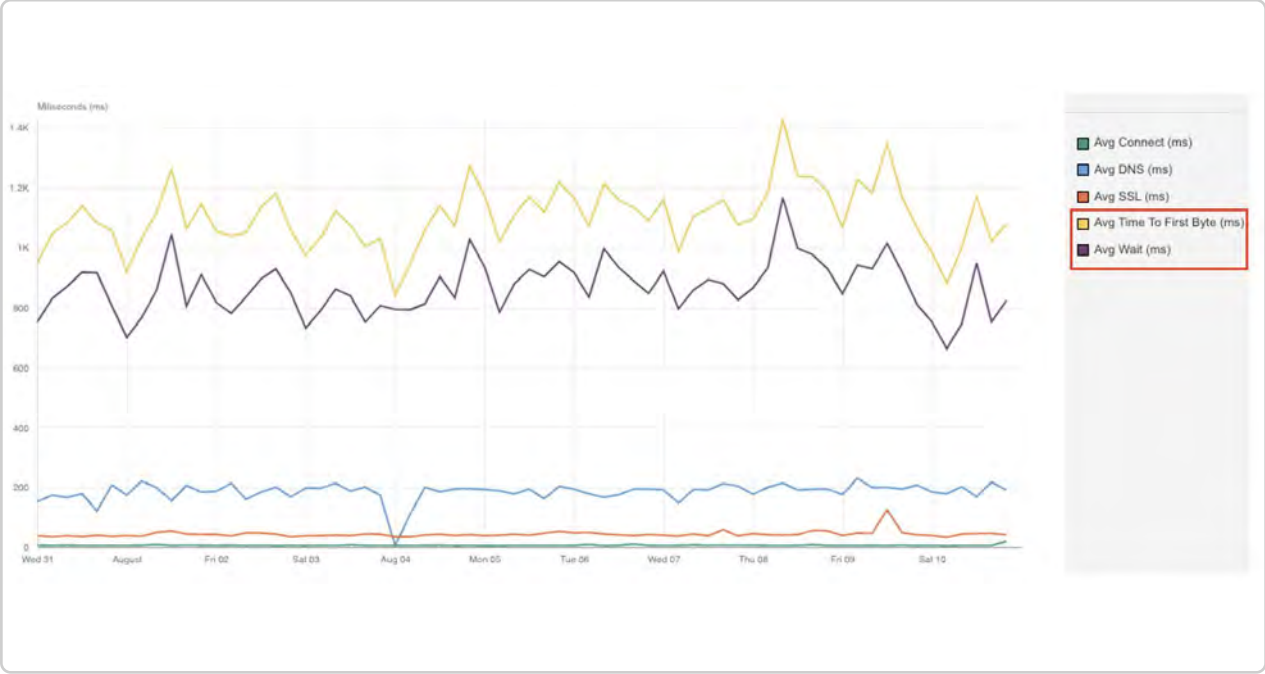
Comparison of the average TTFB (ms) for the benchmarked athletic footwear & apparel brand homepages. Recommended TTFB: ~200ms.

Test	DNS (ms) Avg	Connect (ms) Avg	SSL (ms) Avg	Wait (ms) Avg
Puma	64	9	16	12
Under Armour	0	7	16	84
On	49	9	20	135
Steve Madden	66	9	22	323
Skechers	45	7	21	445
Adidas	111	7	61	440
Converse	102	11	43	486
Asics	116	10	45	531
HOKA	68	8	16	633
Reebok	89	21	33	620
Kappa	0	9	23	929
VEJA	171	7	16	843
Nike	191	6	46	852

This table shows the different network components impacting TTFB for the benchmarked athletic footwear and apparel brands

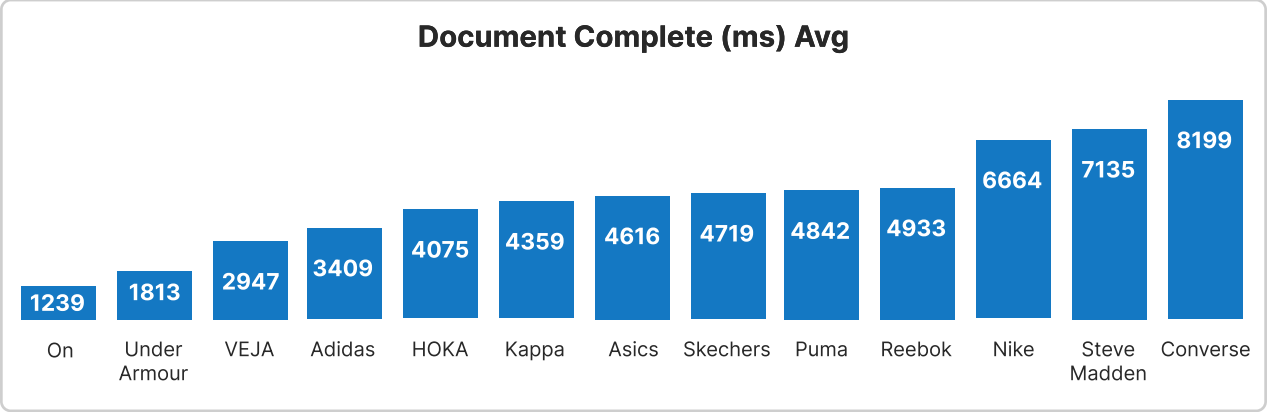
Findings:

- **Puma** and **Under Armour** demonstrate exceptional TTFB performance with values of 101ms and 107ms, respectively. **On** follows closely with a TTFB of 215ms. These rapid server response times significantly contribute to faster overall webpage load times.
- Most of the websites have longer wait times, resulting in higher TTFB. This is likely due to cache misses at the CDN level, causing a fallback to the origin server.
- **VEJA** and **Nike** face the biggest TTFB challenges, exceeding 1 second due to extended wait times, which can harm user experience and lead to higher bounce rates.



This graph shows Nike's TTFB in our analysis. Notice how longer wait times are directly linked to higher TTFB, indicating that turnaround time from the server contributes significantly to these spikes.

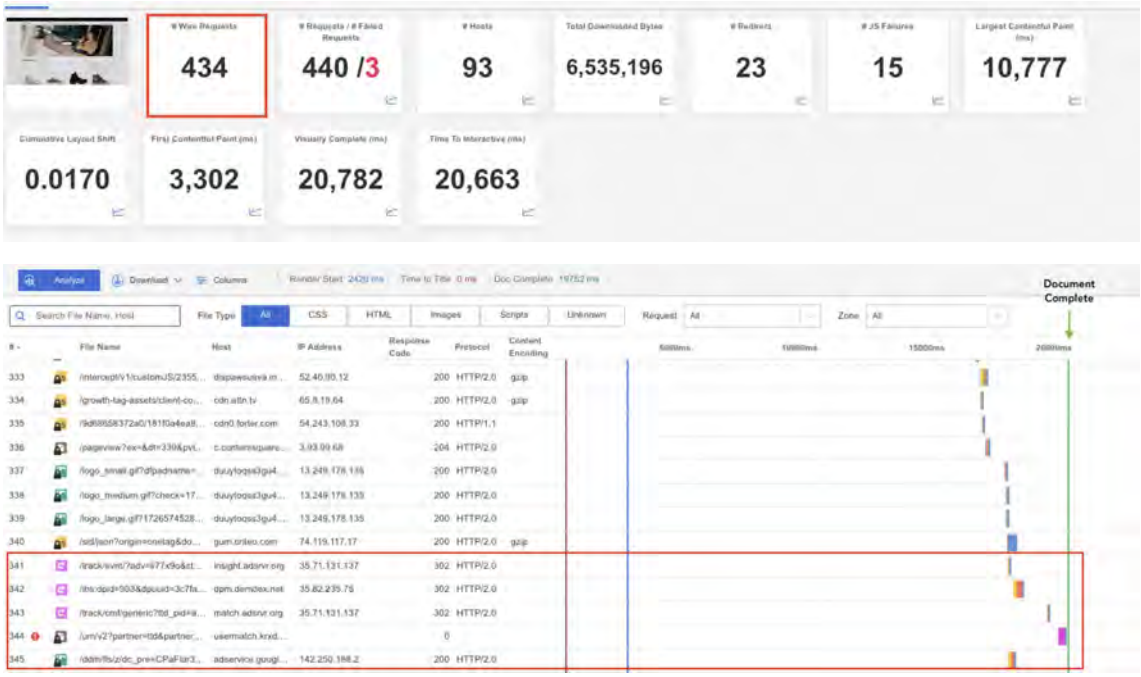
3. Document Complete



Comparison of average document complete times (ms) for the benchmarked athletic footwear and apparel brand homepages. Recommended document complete time: ~3 seconds.

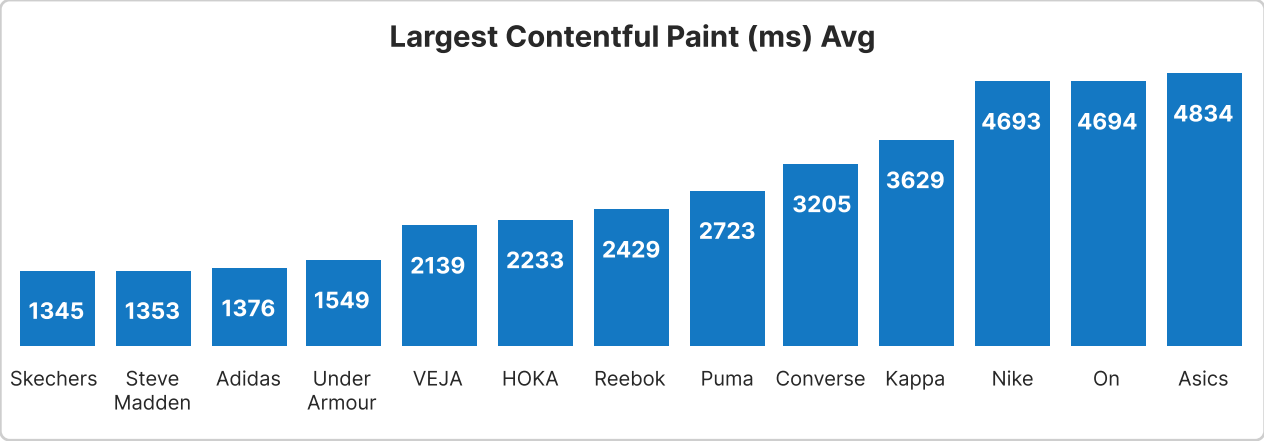
Findings:

- **On** shows the best webpage loading efficiency with the fastest average document complete time of 1,239ms, pointing to a potentially improved user experience.
- **Converse** has the most significant delays, with **Steve Madden** also showing slower times. These prolonged load times may negatively impact user experience and engagement metrics.
- **Converse's** document complete time is approximately 2.5 times slower than the recommended benchmark of 3secs due to 350+ requests loading before the onload event, as seen the chart below.



This waterfall chart further illustrates how these numerous requests delay the loading process, highlighting a significant area for optimization.

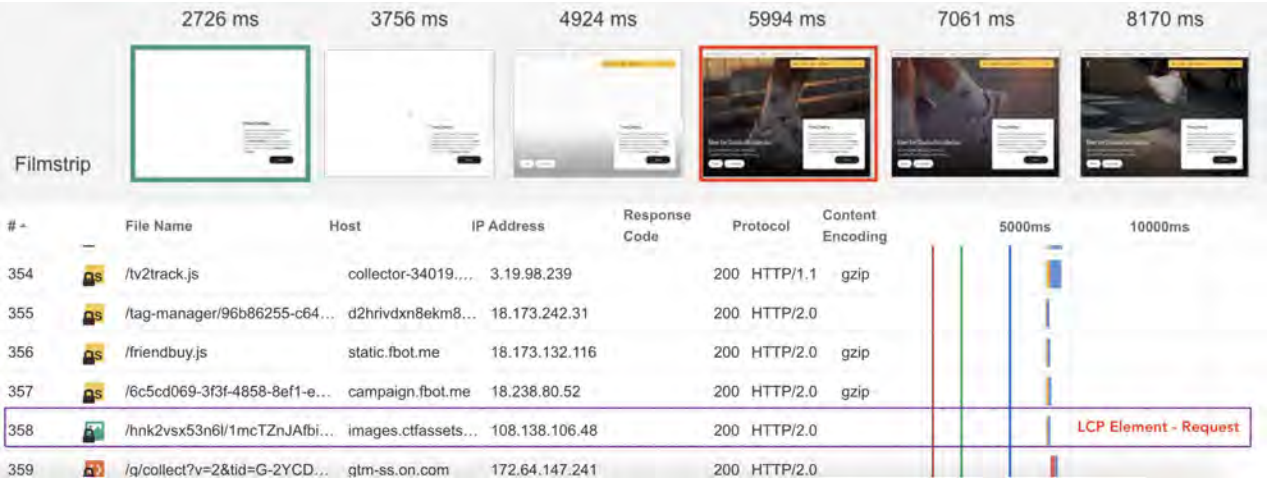
4. Largest Contentful Paint (LCP)



Comparison of average LCP times (ms) for the benchmarked athletic footwear and apparel brand homepages. Recommended standard for LCP: ~2.5 seconds.

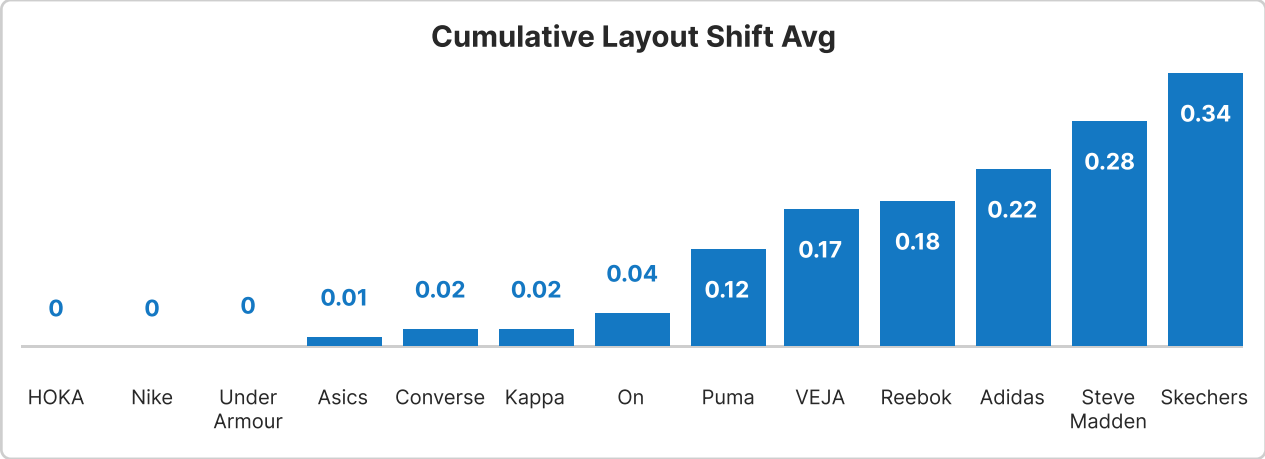
Findings:

- **Skechers** shows the fastest LCP performance among its competitors.
- **Asics, On,** and **Nike** have LCP times exceeding 4.5 seconds, indicating significantly delayed loading of primary content. These delays can negatively impact user experience and reduce engagement.
- The filmstrip below illustrates the negative impact of delayed LCP element loading on user experience for the **On** website.



- The LCP element on On's website took 5.9 seconds to load as it was the 358th request in the sequence. This caused a prolonged period of perceived page blankness, negatively affecting user experience and hindering performance metrics.

5. Cumulative Layout Shift (CLS)

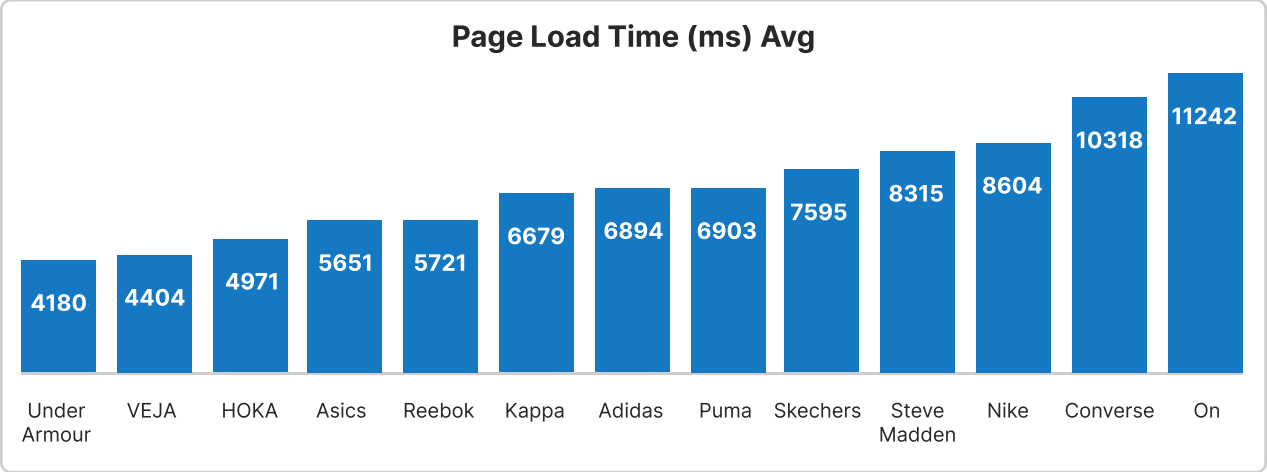


Comparison of average CLS values for the benchmarked athletic footwear and apparel brand homepages. Recommended CLS score: <0.1.

Findings:

- **HOKA, Nike** and **Under Armour** have a CLS score of 0, indicating no unexpected content shifts during page loading, resulting in a smooth and predictable user experience.
- The majority of analyzed websites maintain CLS scores below the recommended threshold of 0.1, demonstrating a commitment to visual stability except for **Adidas, Steve Madden** and **Skechers.**
- **Skechers** stands out with a CLS score of 0.3, indicating significant layout instability that may lead to user frustration and negatively affect the overall experience.

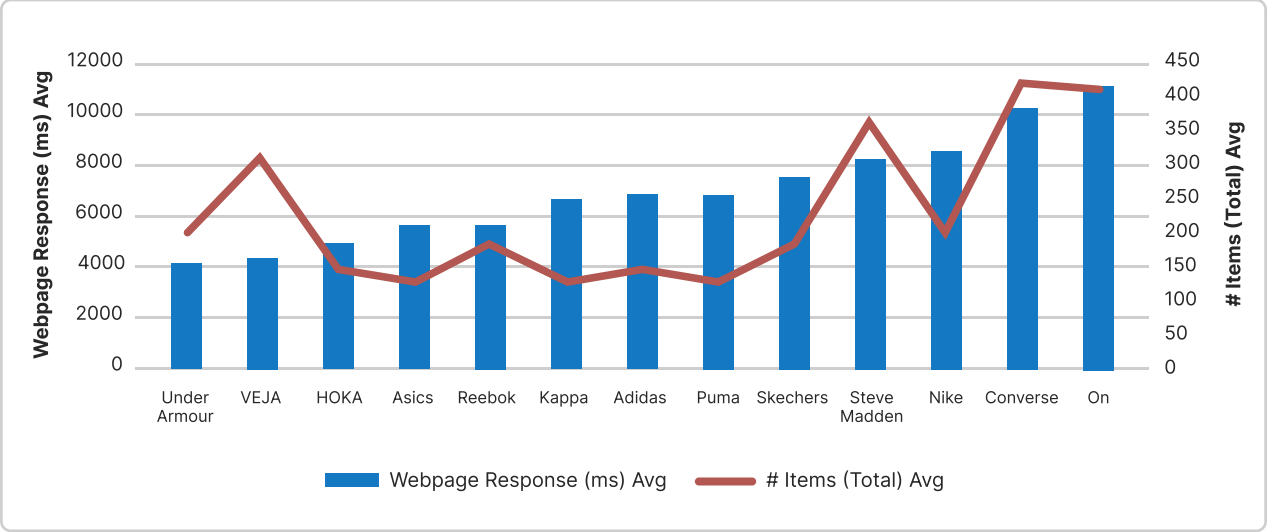
6. Page Load Time



Comparison of average page load times (ms) for the benchmarked athletic footwear and apparel brand homepages. Recommended page load time: <5 seconds.

Findings:

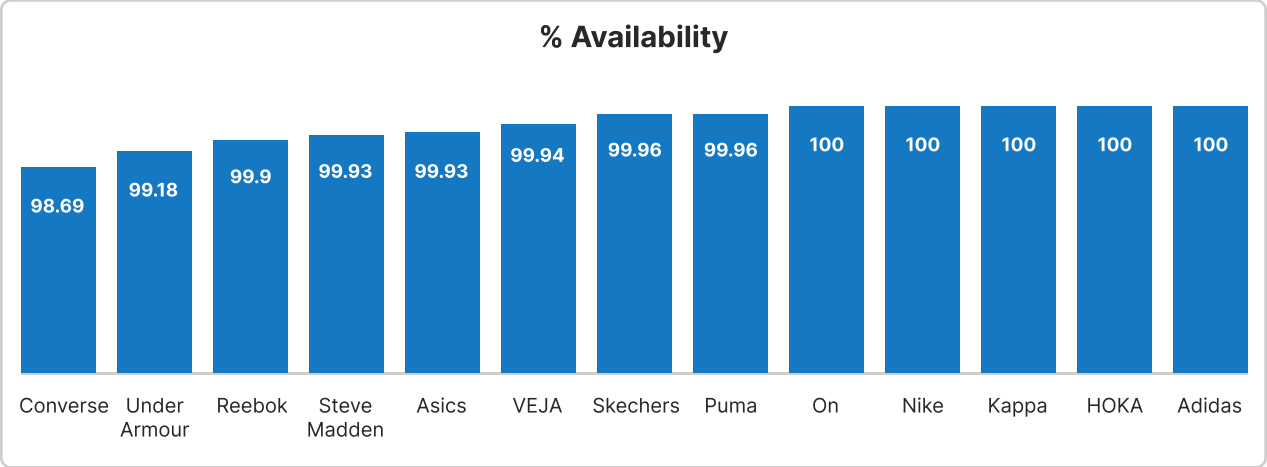
- **Converse** and **On** have significantly slower page load times compared to the rest, indicating a need for performance optimization to improve user experience.
- **Under Armour** shows exceptional page load times. Its website's lightweight architecture, with minimal downloaded bytes and requests, contributes to this strong performance, highlighting effective optimization and efficiency.



This chart illustrates the impact of the total number of requests on overall page load times.

- Brands with a higher total number of requests, such as **On** and **Converse**, generally exhibit longer page load times.

7. Availability



Comparison of average availability percentages for the benchmarked athletic footwear and apparel brand homepages. Recommended availability percentage: 99.9% or higher

Findings:

- While the majority of brands maintain high availability, ensuring their websites are consistently accessible, **Converse** and **Under Armour** have room for improvement.
- **Converse** has the lowest availability at **98.69%**, suggesting more frequent or prolonged downtime, which can disrupt user experience and potentially lead to lost sales. Frequent availability drops, even by a small margin, can lead to a negative user experience and affect overall customer perception of the brand.

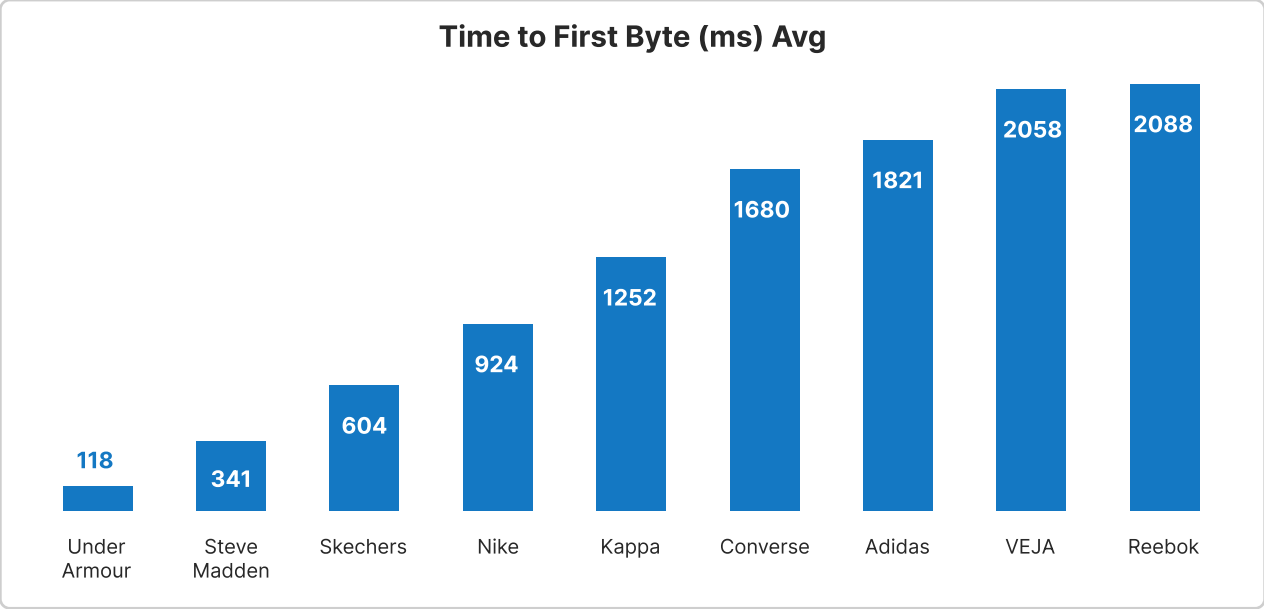
Search results page

The search results page is crucial in the online shopping journey—speed here is just as important. A slow search results page can frustrate users and lead to lost sales, while a fast one keeps them engaged and exploring products. Which brands delivered the most efficient search results pages in our benchmark results? Let's dive into the results.

Search results page benchmark summary:

- **Under Armour** consistently leads in search results page metrics, including TTFB and document complete time, suggesting an efficient and user-friendly experience.
- **Converse** and **Reebok** faced hurdles across multiple metrics, including high TTFB, slow LCP, and prolonged page load times. These performance issues suggest a need for optimization, especially in reducing server wait times and managing resource loading.

1. Time to First Byte



Comparison of the average TTFB (ms) for the benchmarked athletic footwear & apparel brand search results pages. Recommended TTFB: ~200ms.

Findings:

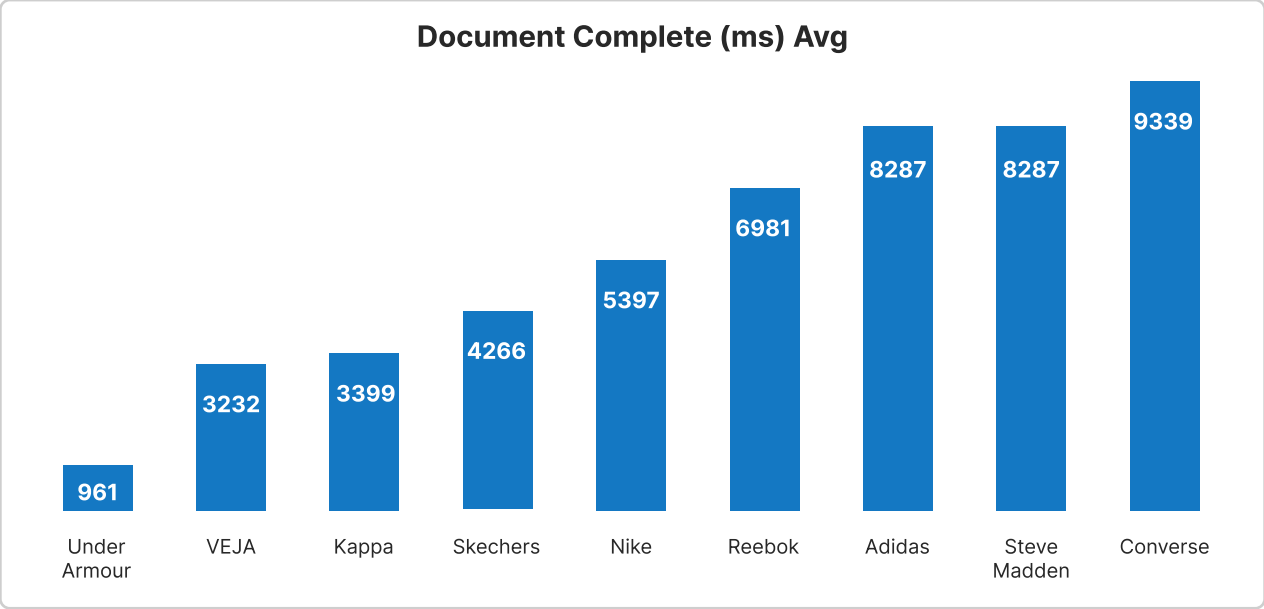
- **Under Armour** leads with superior TTFB performance, clocking in at 118ms. This is due to content being cached at the CDN's varnish cache, reducing the need for a round trip to the origin server for content delivery.
- Many of the analyzed websites face prolonged wait times, resulting in higher TTFB values, indicating room for server optimization.
- **VEJA** and **Reebok** show the most significant TTFB challenges on their search results pages, with load times exceeding two seconds. These delays can negatively impact user experience and increase bounce rates.

Findings:

The filmstrip above highlights how high TTFB significantly delays page load for **Reebok**, with the first visual elements of the search page appearing only after 3.5 seconds. This delay negatively impacts key performance metrics like Render Start, Document Complete, and overall webpage responsiveness.

The **Under Armour** response headers indicate that content was cached and served from a Varnish cache, minimizing unnecessary requests to the origin server, which results in quicker Time to First Byte.

2. Document Complete

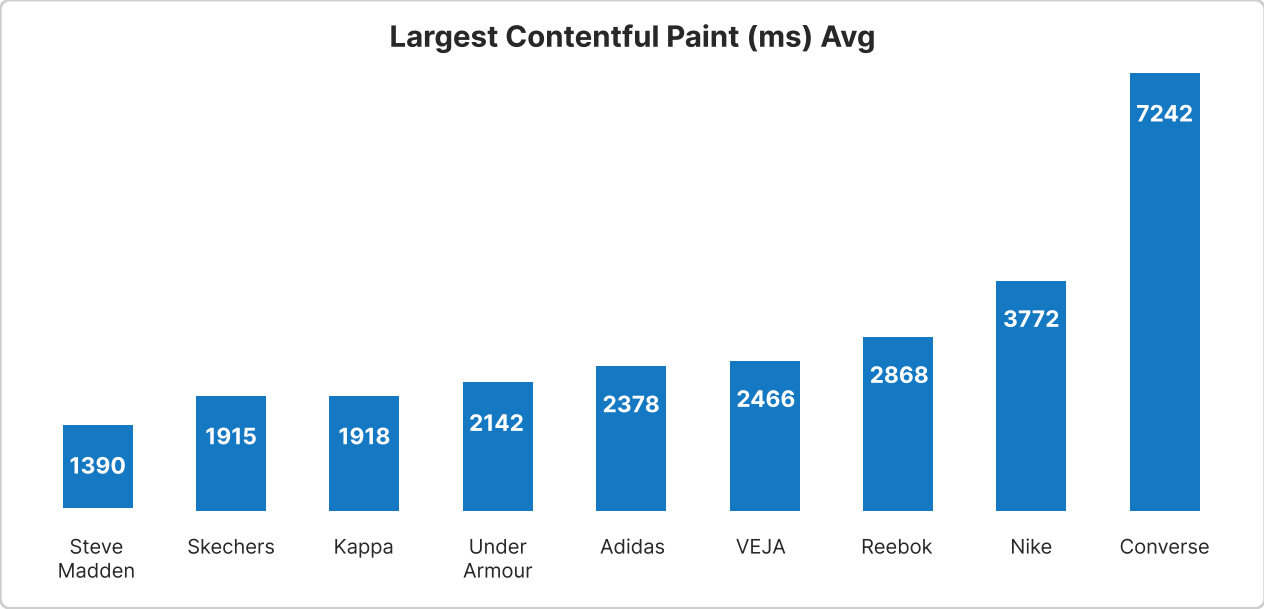


Comparison of average document complete times (ms) for the benchmarked athletic footwear and apparel brand search results pages. Recommended document complete time: ~3 seconds.

Findings:

- **Under Armour** leads with exceptional webpage loading efficiency, achieving the fastest average document complete time of 961ms, suggesting a superior user experience.
- **Converse's** document complete time is approximately three times the recommended benchmark, highlighting a critical need for performance optimization.

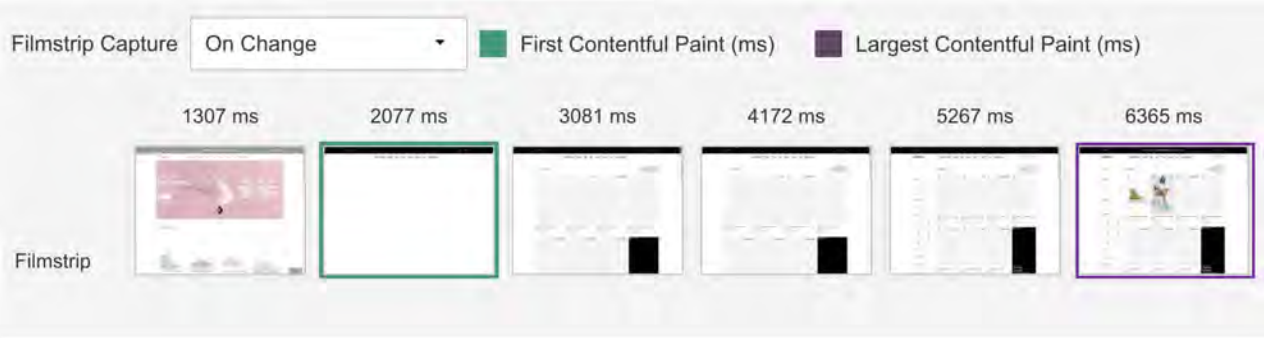
3. Largest Contentful Paint (LCP)



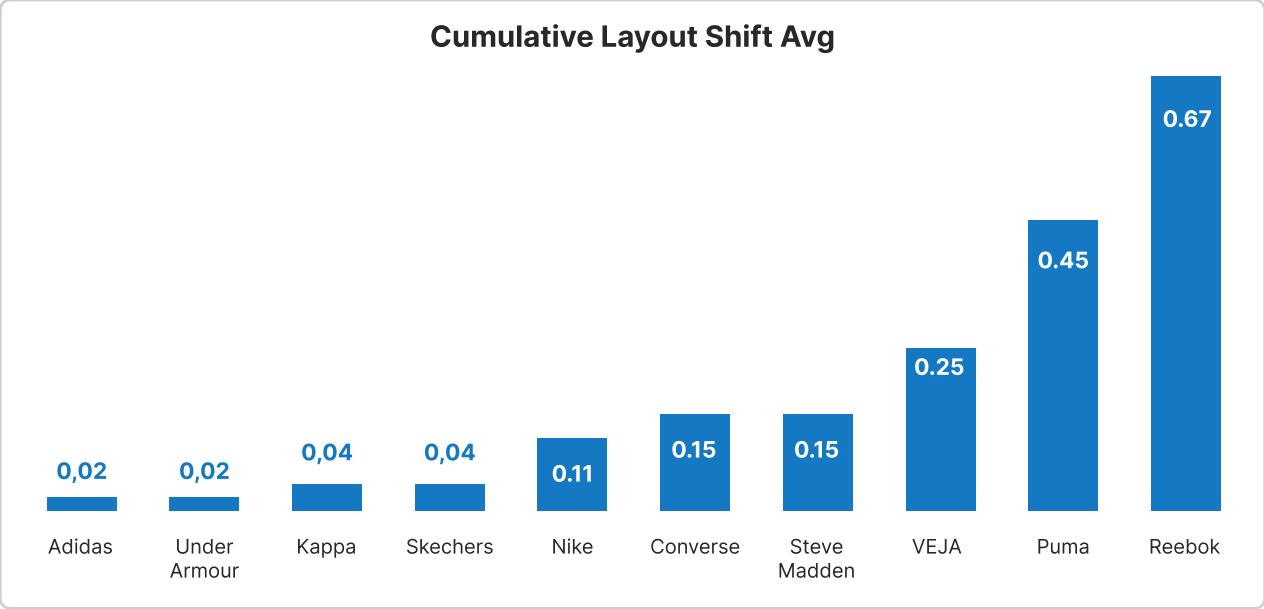
Comparison of average LCP times (ms) for the benchmarked athletic footwear and apparel brand search results pages. Recommended standard for LCP: ~2.5 seconds.

Findings:

- **Steve Madden** leads in LCP performance, achieving faster load times compared to competitors.
- **Converse** shows significantly slower LCP times, exceeding the seven-second mark. These prolonged load times for primary content are likely to negatively impact user experience and reduce user engagement.
- Analysis of the **Converse** website's page load performance indicates a high LCP metric for the search results page, primarily caused by the delayed loading of the LCP element, as shown below.



5. Cumulative Layout Shift (CLS)

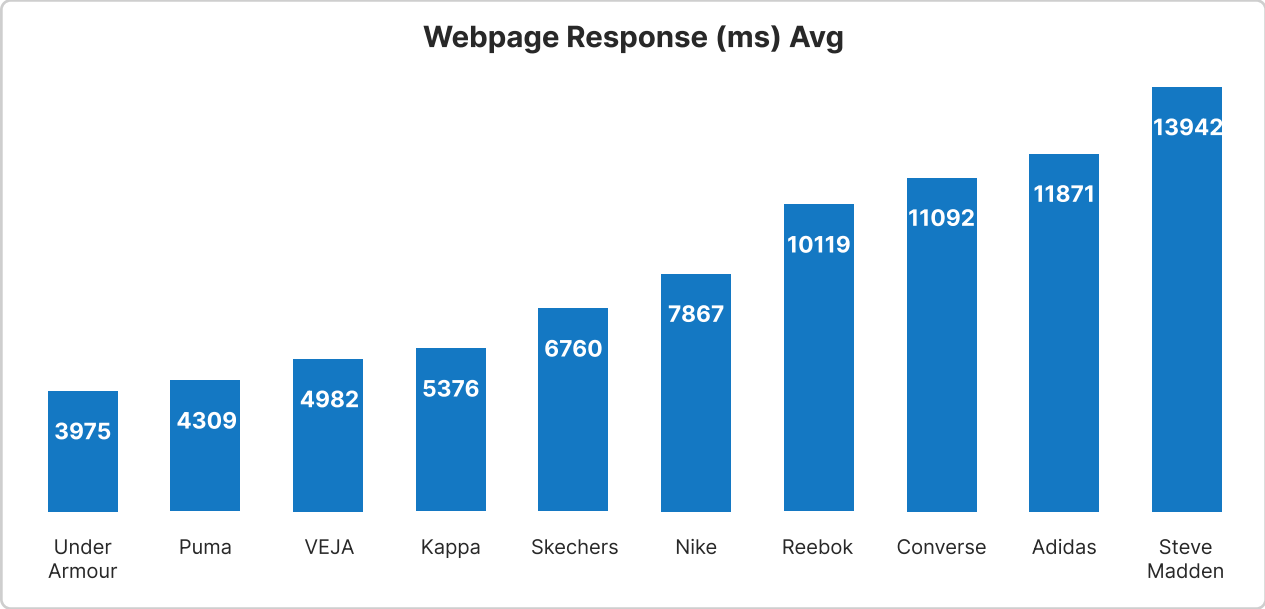


Comparison of average CLS values for the benchmarked athletic footwear and apparel brand search results pages. Recommended CLS score: <0.1.

Findings:

- **Adidas, Under Armour, Kappa,** and **Skechers** demonstrate exceptional CLS performance, with scores below 0.1, indicating minimal visual instability and a smooth user experience.
- **Puma** and **Reebok** present significant challenges in terms of visual stability, with CLS scores of 0.45 and 0.67, respectively, indicating pronounced layout shifts that could negatively impact user satisfaction.

6. Page Load Time

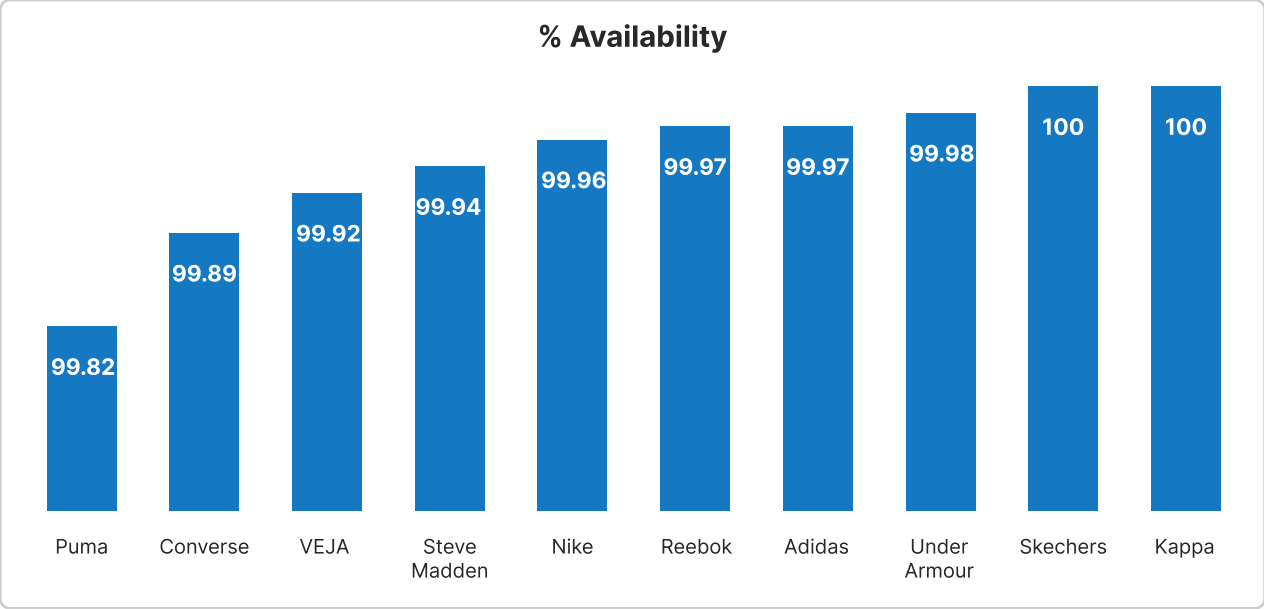


Comparison of average page load times (ms) for the benchmarked athletic footwear and apparel brand search results pages. Recommended page load time: <5 seconds

Findings:

- **Reebok**, **Converse**, **Adidas,** and **Steve Madden** show notably sluggish page load times, each exceeding ten seconds. This indicates a need for significant performance improvements to enhance user satisfaction.
- **Under Armour** demonstrates exceptional page load speed, followed closely by **Puma** and **VEJA.** Their streamlined architecture and optimized resource management contribute to their superior performance.

7. Availability



Comparison of average availability percentages for the benchmarked athletic footwear and apparel brand search results pages. Recommended availability percentage: 99.9% or higher.

Findings:

- Most brands demonstrate high availability, ensuring consistent access for users. However, brands with availability below the 99.9% mark, like **Puma** and **Converse**, should focus on improving uptime to enhance user experience and maintain customer trust.

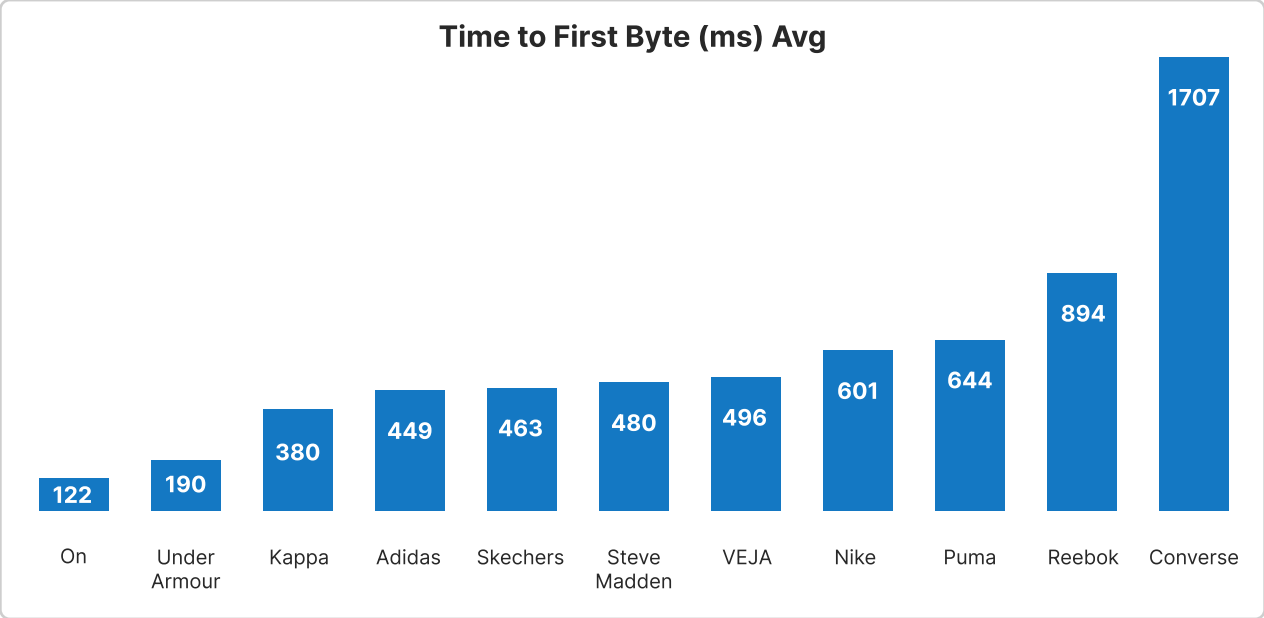
Product detail page

The product detail page (PDP) is the final lap in your customer's shopping journey—this is where it all counts. A slow PDP can stop shoppers in their tracks, but a fast, reliable page propels them toward checkout. Which brands delivered the most efficient PDPs in our tests? Let's take a look.

Product detail page benchmark summary

- **Under Armour** stands out as the MVP in page performance, while **Converse** and **Steve Madden** have clear opportunities for optimization, particularly in server response, caching strategy, and visual layout consistency.
- Brands with faster server response times, efficient resource management, and high visual stability provide the best user experiences on their product detail pages.

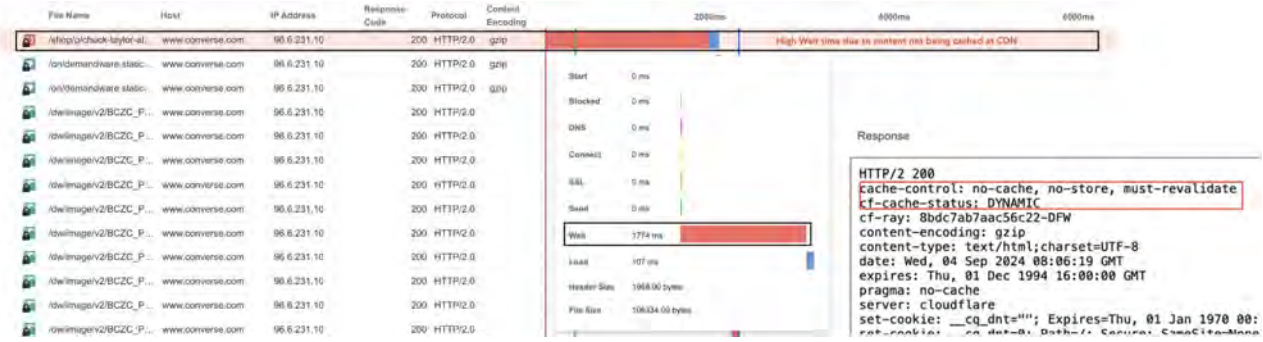
1. Time to First Byte



Comparison of the average TTFB (ms) for the benchmarked athletic footwear & apparel brand product detail pages. Recommended TTFB: ~200ms.

Findings:

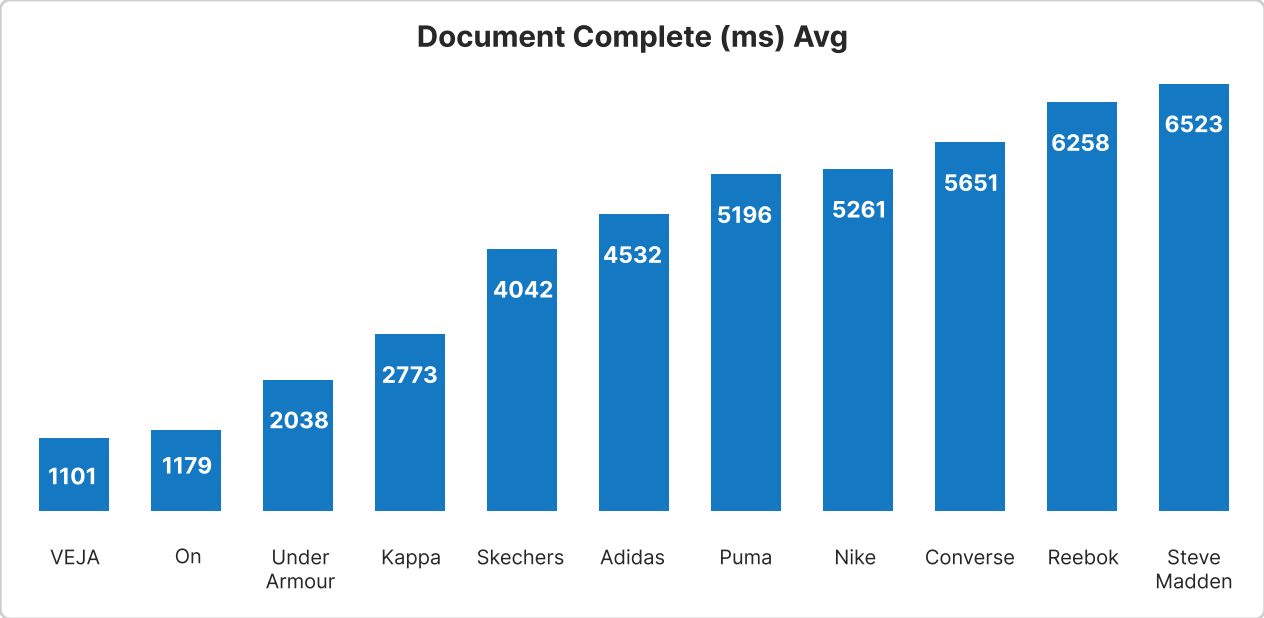
- **On** and **Under Armour** show excellent TTFB performance, with times of 122ms and 190ms. These quick server responses help speed up the overall page load.
- Many of the websites have longer wait times, which results in higher TTFB and slower page loading.
- **Converse** has a high TTFB of 1.7 seconds on its product detail page. This long wait for data can hurt user satisfaction and lead to higher bounce rates.
- The main difference between websites with high and low TTFB is whether their content is cached. As shown in the waterfall charts below, websites like **Converse** have higher TTFB because their content isn't cached at the CDN, so requests go back to the origin server, adding more delay. In contrast, websites like **Under Armour** use CDN caching, speeding up the response time.



This waterfall chart for Converse shows that content isn't cached at the CDN, causing longer wait times since requests go directly to the origin server.

This waterfall chart for Under Armour shows content is cached, leading to quicker load times because the CDN edge server handles the requests.

2. Document Complete

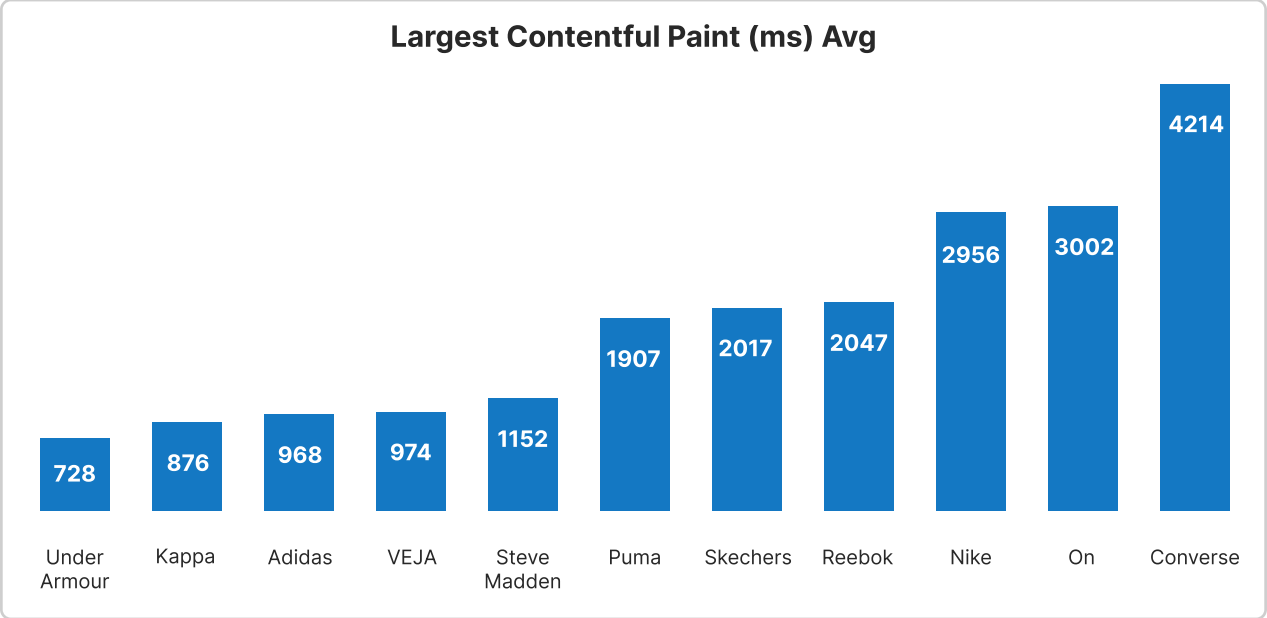


Comparison of average document complete times (ms) for the benchmarked athletic footwear and apparel brand product detail pages. Recommended document complete time: ~3 seconds

Findings:

- **VEJA** shows excellent page loading speed, with an average document complete time of just 1.1 seconds. This fast load time suggests a great user experience.
- **Steve Madden** has very slow document complete times, with **Reebok** also taking more than 6 seconds. These long load times can negatively affect user engagement and overall satisfaction.

3. Largest Contentful Paint (LCP)

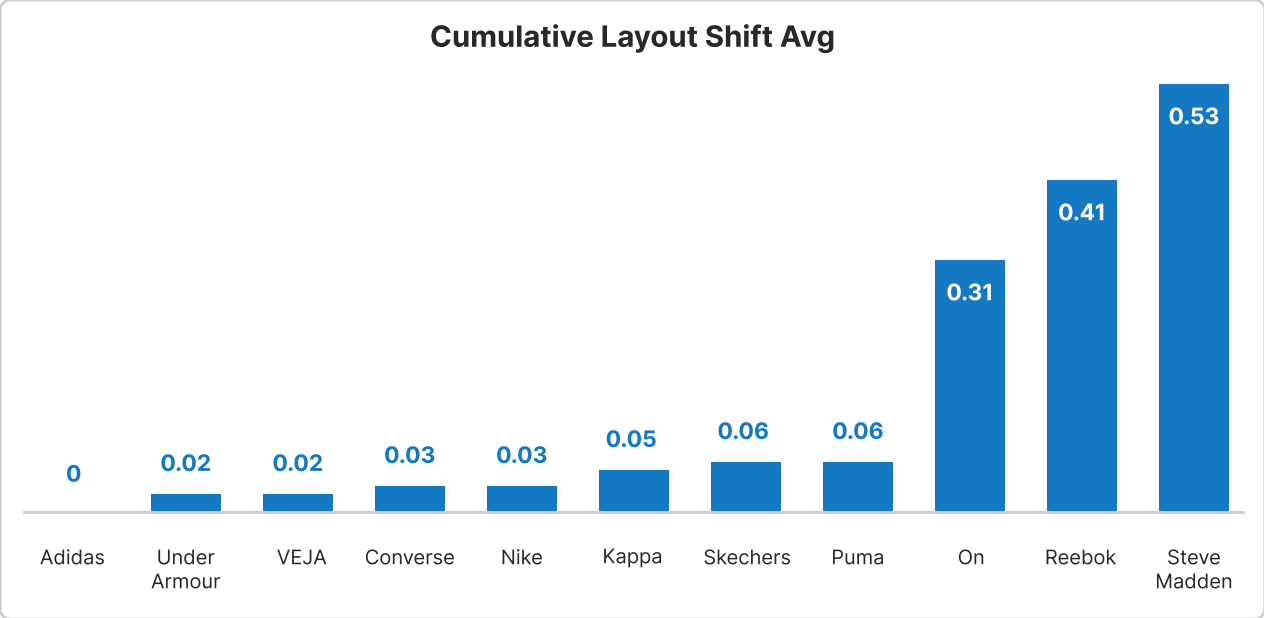


Comparison of average LCP times (ms) for the benchmarked athletic footwear and apparel brand product detail pages. Recommended standard for LCP: ~2.5 seconds.

Findings:

- **Under Armour** leads in LCP performance with the fastest loading times, providing a better user experience.
- **Converse** has much slower LCP times, taking over 4 seconds to load the main content. These delays can negatively affect user experience and reduce engagement.

5. Cumulative Layout Shift (CLS)

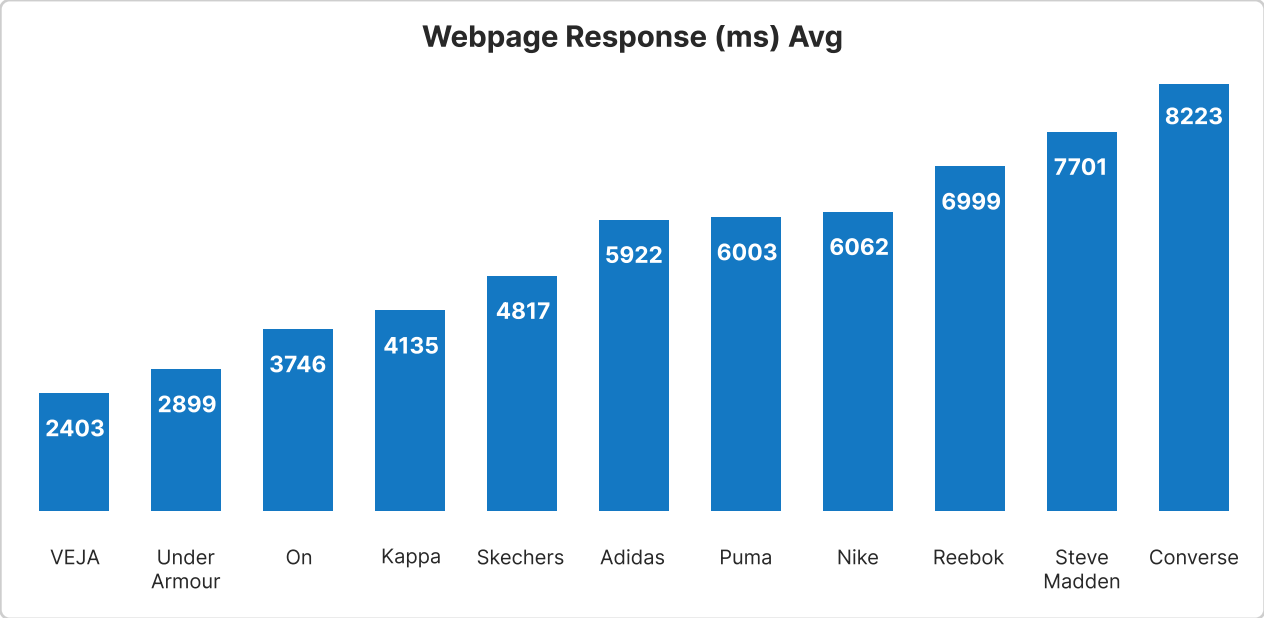


Comparison of average CLS values for the benchmarked athletic footwear and apparel brand product detail pages. Recommended CLS score: <0.1.

Findings:

- **On, Reebok,** and **Steve Madden** show significant visual stability issues which can negatively impact user satisfaction.
- The filmstrip below shows a significant layout shift on the **Steve Madden** website. Between 3.4 and 5.3 seconds, the page's header and product selection options (color, quantity) were added dynamically, pushing the existing content downwards.

6. Page Load Time



Comparison of average page load times (ms) for the benchmarked athletic footwear and apparel brand product detail pages. Recommended page load time: <5 seconds

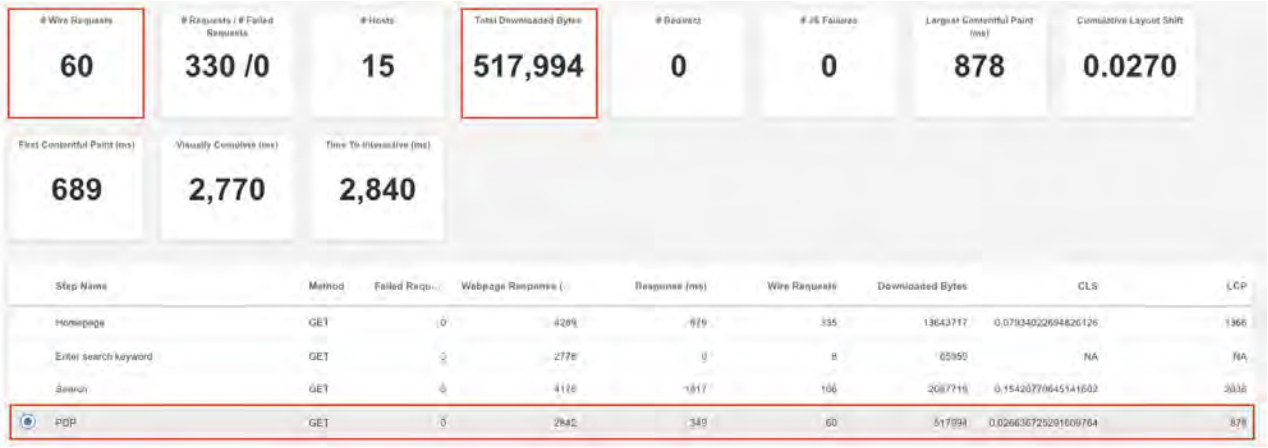
Findings:

- **Reebok, Steve Madden,** and **Converse** have significantly slower page load times, indicating a strong need for performance improvements.

Site Comparison:

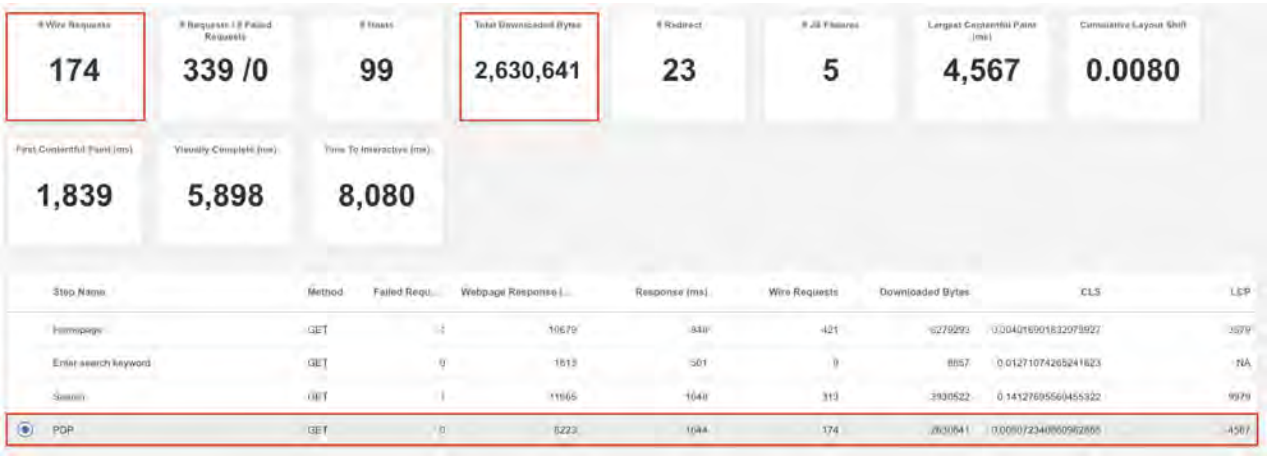
This comparison highlights the correlation between page load time, network requests, and data transfer.

Under Armour



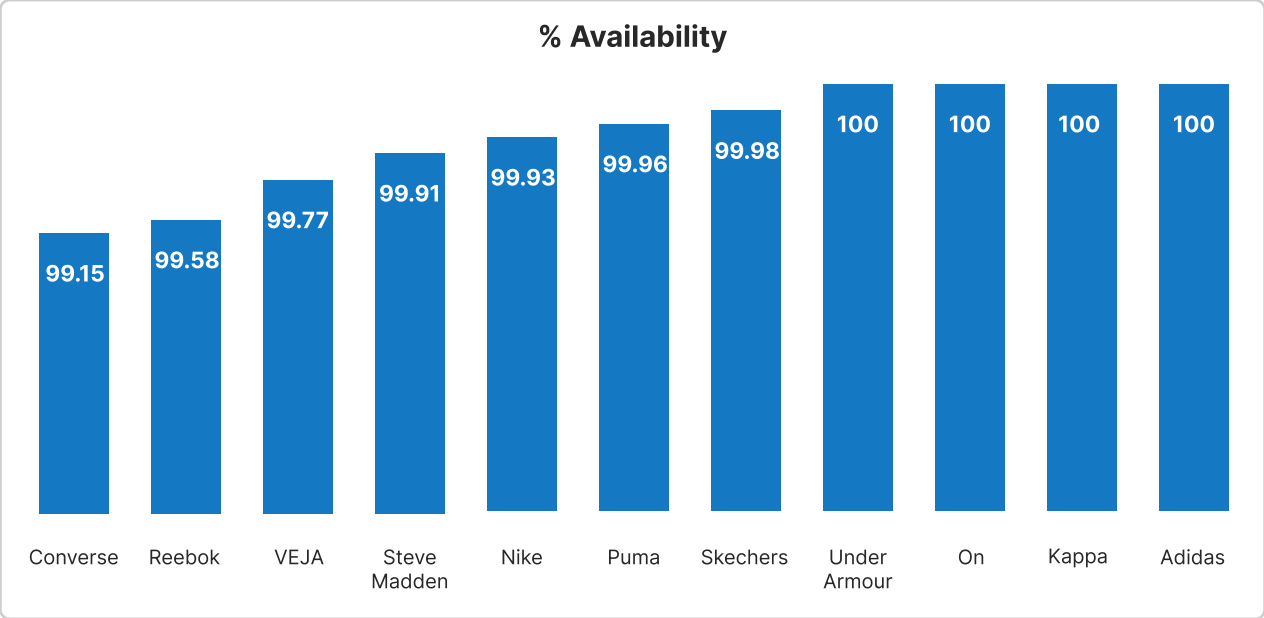
Under Armour delivers superior performance with a page load time of 2.8 seconds. By handling fewer network requests (60) and transferring less data (517,994 bytes), it provides a faster and more efficient user experience.

Converse



Converse has a longer page load time of 8.2 seconds due to a high number of network requests (174) and a large data transfer (2,630,641 bytes), leading to a poorer user experience

7. Availability



Comparison of average availability percentages for the benchmarked athletic footwear and apparel brand product detail pages. Recommended availability percentage: 99.9% or higher.

Findings:

- While the majority of brands maintain strong availability, ensuring their websites are reliable and accessible, **VEJA**, **Converse**, and **Reebok** fall below the ideal threshold. Improving uptime is vital for these brands to ensure a more dependable and positive user experience.

Actionable steps for improvement

The benchmark results highlight significant performance gaps across athletic footwear and apparel websites. Here are actionable steps that will help brands improve their website performance and deliver a smoother, faster, and more reliable user experience.

- **Continuous monitoring and testing:** Implement continuous monitoring of all key performance metrics to promptly identify and address issues.
- **Monitor from real-world locations:** To truly understand the user experience, monitor website performance from the same locations and networks your users are in. This provides more accurate insights into how different regions experience your site and uncovers location-specific issues.
- **Third-party dependency management:** Review and minimize the number of third-party dependencies (e.g., CDNs, DNS services, Adobe plug-ins, fonts). Each third-party request adds load time, so identifying and streamlining these can significantly enhance performance.
- **Proper caching and CDN tuning:** Ensure caching strategies are optimized and CDNs are configured to reduce round trips to origin servers. This will improve TTFB and decrease overall load times.
- **Establish and adhere to industry benchmarks:** Regularly compare website performance against industry standards to identify areas for improvement.

  Use the performance data of top-performing websites in reports such as these as a benchmark to guide improvements.
- **Holistic optimization:** Address not just individual metrics but also their interdependencies. For example, improving DNS and TTFB can collectively enhance overall page load times.
- **User feedback:** Collect and analyze user feedback to understand pain points related to website performance. Use this data in conjunction with the insights gleaned from your monitoring strategy to prioritize optimization efforts.
- **Performance audits:** The choice of CDN provider significantly impacts performance metrics like DNS and TTFB. Schedule regular audits to review and optimize server configurations, CDN settings, and frontend performance.

Dig deeper into web performance: Check out our guide, 5 Steps to Improve Website Performance, for more best practices.

Catch issues before they impact your website performance

You can have the best website in the world, but if it's slow, or no one can reach it, your users are going to get frustrated, leading to lost revenue and a damaged reputation.

Catchpoint's Internet Performance Monitoring (IPM) enables detailed, global visibility across the Internet Stack – the tangled web of distributed network systems that connect your web applications to your users, including BGP, CDN, and DNS services. Our cloud-native platform ensures Internet Resilience across your organization with five enterprise IPM solutions, including a best-of-breed Website Experience Solution.

Website Experience, powered by Internet Performance Monitoring

Not only does Catchpoint's Website Experience Solution empower you to monitor your site's speed, usability, and resilience in real-time across various browsers, devices, and global locations, but it also allows you to rapidly identify and fix performance issues before they impact your business.

Key benefits

- Leverage WebPageTest's extremely accurate synthetic browser testing methods to monitor all your web pages' key metrics in a single dashboard.
- Find and fix performance complications before they impact revenue.
- Ensure reachability - not just availability.
- Alert the right people when performance thresholds are exceeded.
- Monitor DNS, BGP, CDNs, third-party assets, and other possible bottlenecks from real devices and browsers around the globe.
- Compare and contrast your web pages between releases.
- Compare your website's performance to your competitors and uncover opportunities for improvement with side-by-side benchmarking tests.
- Leverage real user monitoring (RUM) to paint a precise picture of your user base.

About Catchpoint

Trusted by the world's leading brands who understand in the digital age performance is paramount, Catchpoint is dedicated to monitoring what matters from where it matters to catch issues across the Internet Stack before they impact business.

The Catchpoint Platform offers a comprehensive suite of Internet Performance Monitoring capabilities, including Internet Synthetics, RUM, BGP, Tracing, performance optimization, and advanced analytics, all supported by high-fidelity data and flexible visualizations. Leveraging thousands of global vantage points inside the critical systems that make the Internet work, Catchpoint provides unparalleled visibility into what affects customer experiences, workforce efficiency, network performance, websites, applications, and APIs.

Today's digital world requires resilience and exceptional performance, which is why *The Internet Relies on Catchpoint.*

Learn more at: www.catchpoint.com/

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