catchpoint

Catchpoint Industry Benchmarks

Travel Website Performance Benchmark Report

Discover the top-performing travel websites and key metrics for success based on our comprehensive website performance analysis

Introduction

The significance of continuous, proactive monitoring cannot be emphasized enough in today's digital environment. Even slight differences in your website's speed, reliability, and accessibility can have a significant impact on your ability to surpass competitors in search rankings, maintain user engagement, and successfully convert visitors into customers.

Catchpoint, the leader in Internet Performance Monitoring (IPM), analyzed over 30 travel websites to identify key trends in web performance and availability. The top performers from our analysis were **Google Flights, Skyscanner,** and **Tripadvisor.** A common denominator across all the top 10 websites in our analysis was strong performance across key metrics such as DNS resolution, TTFB, document complete time, page load time, LCP, CLS, and availability.

These metrics collectively indicate that the top travel websites provide a fast, stable, and reliable user experience, which is crucial for retaining and growing users, and ensuring their satisfaction. Continuous optimization in these areas will help maintain and further improve website performance.

Catchpoint has been conducting web performance benchmarking reports of this nature for many years, often as exclusive reports for our customers or other internal purposes. As a result, we have established our own set of standards, derived from combining the examination of existing industry standards and comparing these to real world examples.

Metrics tested:

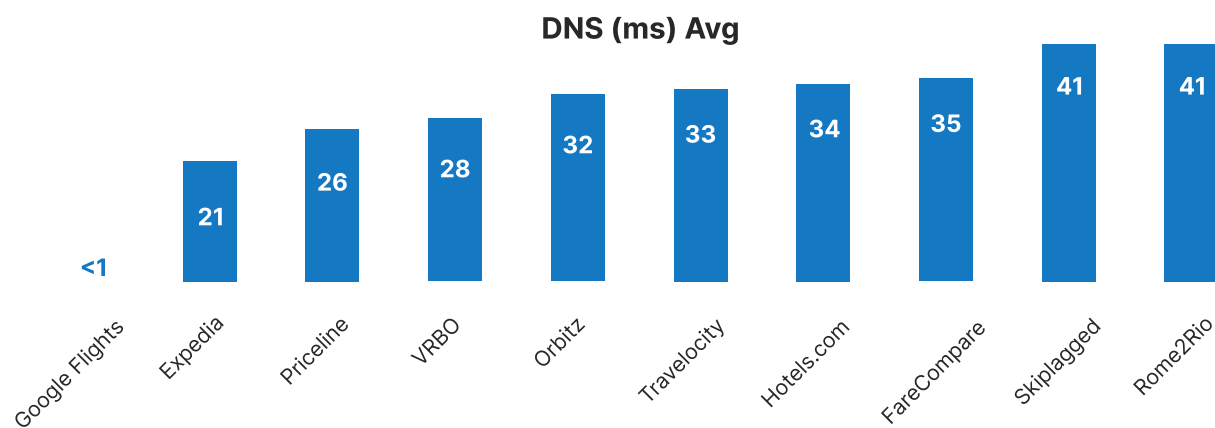|	
1	**DNS Lookup Time:** Time taken to resolve the domain name to its corresponding IP address
2	**Time to First Byte (TTFB):** The total time from the initial DNS request to receiving the first response packet from the server
3	**Document Complete:** Time from when the initial URL is issued until the browser triggers the onload event. This does not include any dynamic requests that may be called later by JavaScript
4	**Largest Contentful Paint (LCP):** Time when the largest content is visible within the viewport
5	**Cumulative Layout Shift (CLS):** Measures the unexpected shifting of webpage elements while the page is still loading
6	**Page Load Time:** Time until the last byte of the final element on the page is loaded
7	**Availability:** Percentage of time that the website is up and running

1. DNS

DNS lookup time measures the time taken to resolve a 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.

Catchpoint recommends that DNS lookup time should be less than 50ms.

Top 10 travel websites with the lowest DNS lookup times

DNS (ms) Avg

Google Flights	Expedia	Priceline	VRBO	Orbitz	Travelocity	Hotels.com	FareCompare	Skiplagged	Rome2Rio
<1	21	26	28	32	33	34	35	41	41

Key insights:

- All the top 10 sites had DNS metrics comfortably within the recommended standard range.
- **Google Flights** has a negligible DNS lookup time, attributed to a minimal number of resolution queries (2 levels) within the recursion chain.
- We noted that many travel sites use a multi-DNS architecture for improved performance.

Pro tips:

- The performance of authoritative DNS providers varies greatly, so choose your DNS provider wisely or carefully implement your own managed DNS.
- Improve DNS performance by continuously monitoring DNS performance to detect DNS issues early, pinpoint areas for DNS infrastructure improvement, and gain geographical insights to ensure consistent performance across different regions.
- If you're using your own DNS solution, specific techniques can be implemented such as optimizing DNS Time-To-Live (TTL) parameters, and using techniques such as CNAME flattening or DNS prefetching.
- To learn more about assessing DNS performance and its role in ensuring a fast, highly functioning website, download our report, written in partnership with IBM.
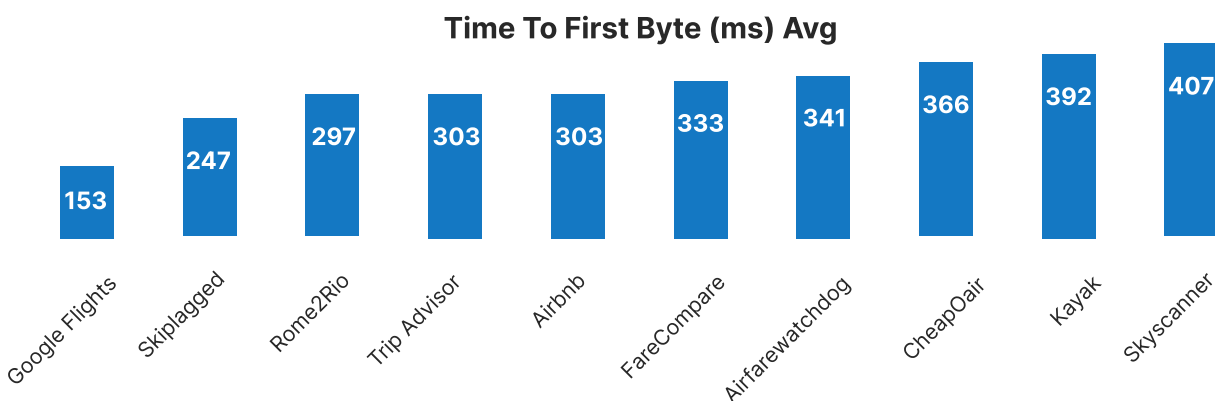
2. Time to First Byte

Time to First Byte (TTFB) measures the time from when a client makes an HTTP request to when the first byte of the response is received. It is crucial for several reasons: it enhances user experience by allowing content to be seen sooner, improves SEO as faster websites rank higher on search engines like Google, and helps identify performance bottlenecks in server or network infrastructure.

Additionally, enhancing TTFB improves overall webpage response time, ensuring a smoother user experience.

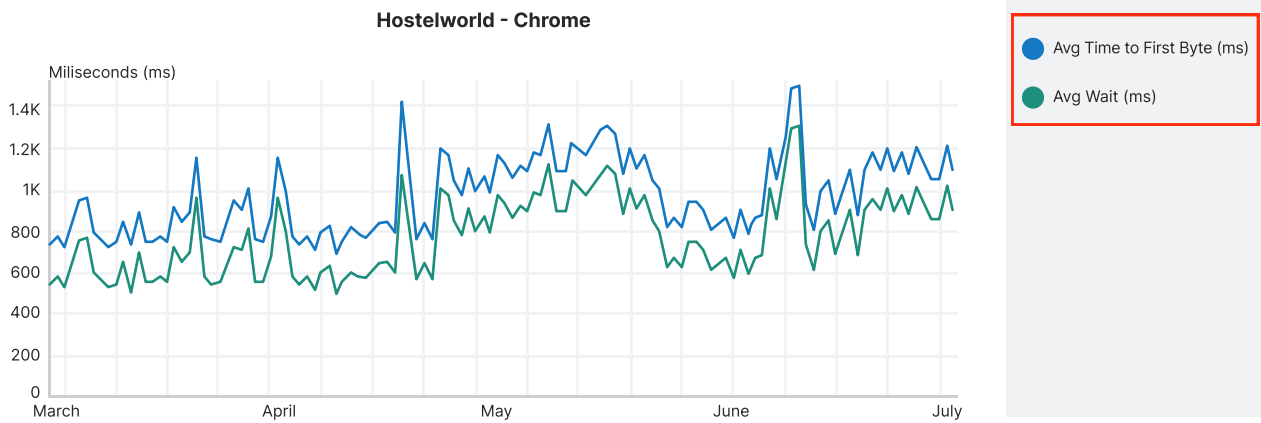Recommended TTFB for a good user experience is about 200ms.

Top 10 travel websites with the lowest TTFB numbers

Time To First Byte (ms) Avg

Google Flights	Skiplagged	Rome2Rio	Trip Advisor	Airbnb	FareCompare	Airfarewatchdog	CheapOair	Kayak	Skyscanner
153	247	297	303	303	333	341	366	392	407

Key insights:

- **Google Flights** is the only site meeting the Catchpoint web performance standard threshold, with a TTFB of 153ms. This indicates superior server responsiveness.
- Elevated wait times significantly impact TTFB for many sites, as seen in the example of Hostelworld below.

Impact of wait times on TTFB

Hostelworld - Chrome

Miliseconds (ms)

Legend:
- Avg Time to First Byte (ms)
- Avg Wait (ms)

Y-axis: 0, 200, 400, 600, 800, 1K, 1.2K, 1.4K

X-axis: March, April, May, June, July
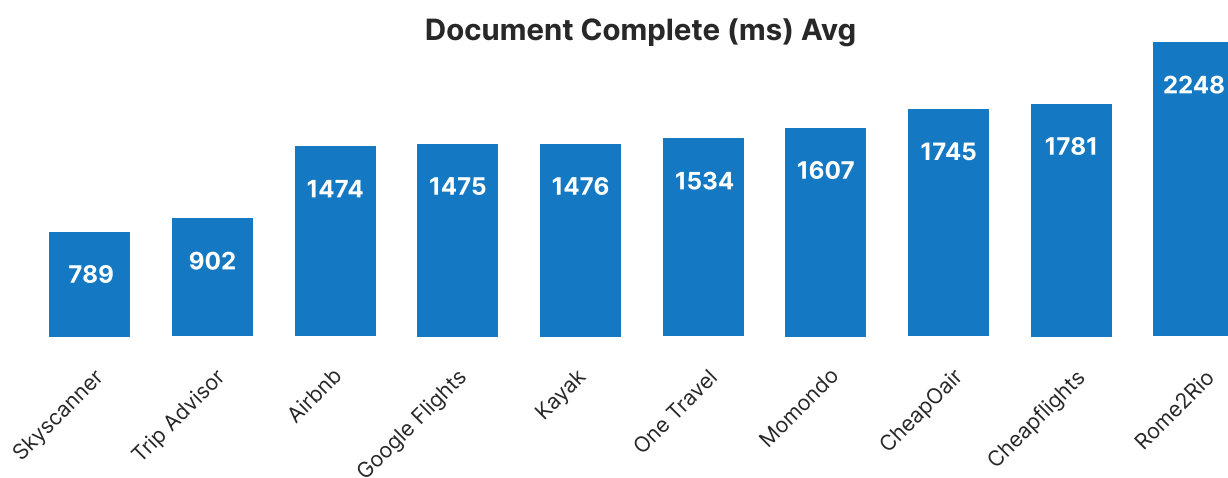
Pro tips:

- To enhance TTFB performance, consider hosting content on a CDN, web perf techniques such as compressing assets or using browser caching, and minimizing redirects.

3. Document Complete

Document complete is the point where the browser triggers the onload event. This metric is important because it indicates that the browser has fully loaded all the necessary HTML, CSS, scripts, images, and resources, ensuring the webpage is ready for users to view and interact with. A shorter document complete time improves user satisfaction and engagement.

Our recommended document complete time is generally around 3 seconds, although this can vary depending on various factors, such as the type of website, the nature of its content, and user expectations.

Top 10 travel websites with the lowest document complete times

Document Complete (ms) Avg

Website	Value
Skyscanner	789
Trip Advisor	902
Airbnb	1474
Google Flights	1475
Kayak	1476
One Travel	1534
Momondo	1607
CheapOair	1745
Cheapflights	1781
Rome2Rio	2248

Key insights:

- All the top 10 sites are within the benchmark of 3 seconds.
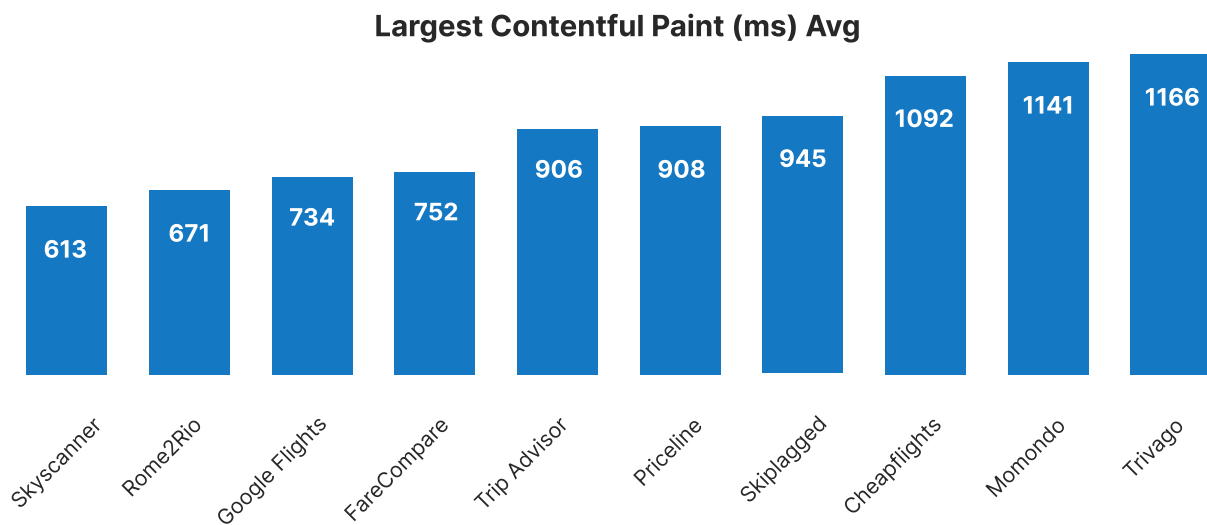
Pro tips:

- To improve document complete times, prioritize rendering critical page elements first. This includes ensuring that the most crucial elements required for initial rendering (such as the main content, navigation, and primary styles) are part of the base HTML. Defer less essential content until after the document is complete.
- Optimize images and compress/minify resources to further enhance document complete times.

4. Largest Contentful Paint

Largest contentful paint (LCP) 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.

Our recommended standard for LCP is approximately 2.5 seconds.

Top 10 travel websites with the fastest LCP times

Largest Contentful Paint (ms) Avg

Skyscanner	Rome2Rio	Google Flights	FareCompare	Trip Advisor	Priceline	Skiplagged	Cheapflights	Momondo	Trivago
613	671	734	752	906	908	945	1092	1141	1166

Key insights:

- It's notable that the top 10 sites for this metric are well within the recommended standards.
- Users are more likely to engage with and stay on websites that load quickly and display initial content promptly.

Pro tips:

- A faster LCP improves user experience by quickly displaying key content. Prioritize preloading or immediate loading of the largest content elements on your page to effectively address LCP concerns.

5. Cumulative Layout Shift

Cumulative layout shift (CLS) measures the visual stability of a webpage. This metric is important because unexpected layout shifts can lead to a poor user experience. A lower CLS score indicates a more stable and user-friendly page.

The recommended CLS score should be below 0.1.

Top 10 travel websites with the lowest CLS scores

Cumulative Layout Shift Avg

Airbnb	Booking.com	Cheapflights	Expedia	Google Flights	Hotwire	Last Minute Travel	Skiplagged	Travelocity	Trip Advisor
0	0	0	0	0	0	0	0	0	0

Key insights:

- The CLS score of all the top 10 sites is 0, which comfortably adheres to Catchpoint standards.
- A CLS score of 0 means there are no unexpected shifts in content during page loading, providing a smooth and predictable user experience.
- This could be attributed to the minimal content on these pages, leaving little room for layout shifts.

Pro tip:

- To improve CLS scores, specify dimensions for images and videos, avoid loading dynamic content above the fold before user interaction, and apply other relevant optimizations such as delaying the loading of ads until after user interaction.
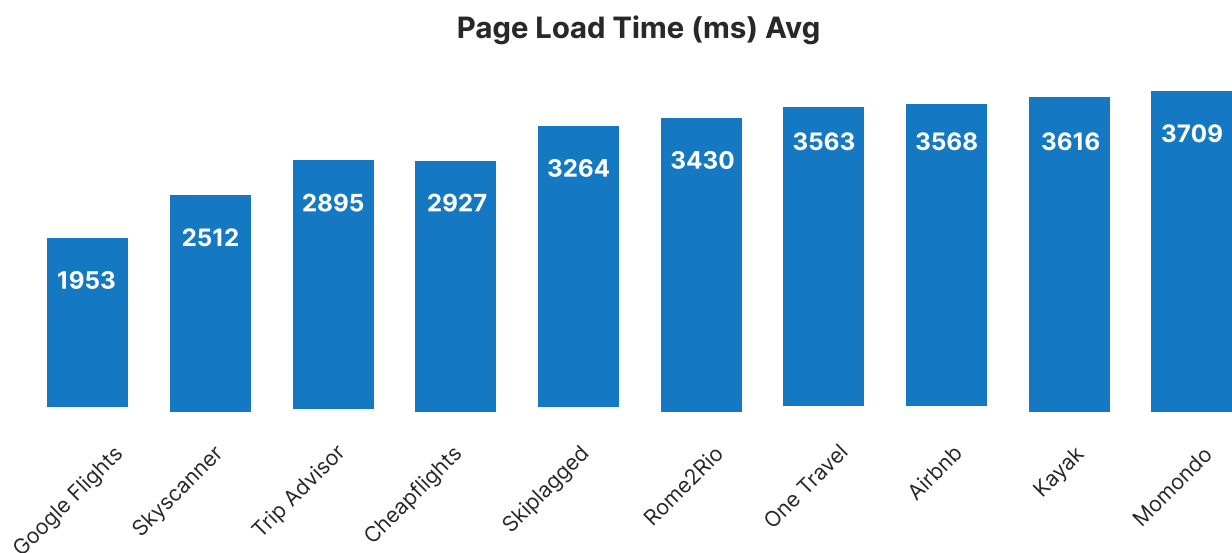
6. Page Load Time

Page load measures the time from initial navigation to receiving the last byte of the final element on the page. Various factors influence page load time, such as the number of requests on the page, the total amount of data downloaded, the quantity and quality of DNS connections, the loading of third-party requests, and the asynchronous loading of JavaScript.

Recommended page load time is less than 5 seconds.

Top 10 travel websites with the lowest page load times

Page Load Time (ms) Avg

Website	Value
Google Flights	1953
Skyscanner	2512
Trip Advisor	2895
Cheapflights	2927
Skiplagged	3264
Rome2Rio	3430
One Travel	3563
Airbnb	3568
Kayak	3616
Momondo	3709

Key insights:

- All the top 10 sites have page load times well within recommended standards, indicating lightning-quick performance—a prerequisite in a fiercely competitive sector.
- The quick page load times can be attributed to the lightweight nature of these websites, which involve minimal downloaded bytes and requests.
- In addition to having a lightweight website, the impact of third-party requests on a page is also critical.

- The below chart shows the impact of the total downloaded bytes on overall Page load times.

Page Load (ms) Avg   Total Downloaded Bytes Avg
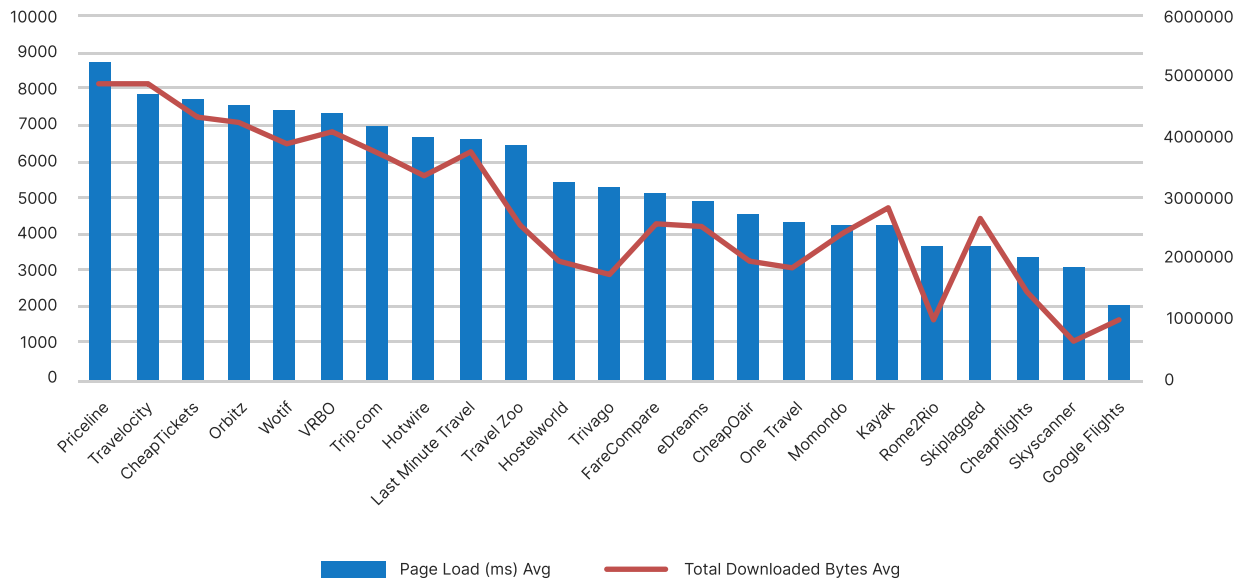
Pro tips:

- As a rule of thumb, it is recommended to keep the page as light as possible. This includes minifying CSS, JavaScript, and HTML to reduce file sizes, and optimizing images and other assets for faster loading, as the page weight directly impacts how long it takes for each request to be made and downloaded.

- Regarding third-party requests, it's critical to continuously monitor their performance to ensure they don't negatively impact overall page speed.

7. Availability

Availability is the final piece of the puzzle. It measures the percentage of time a website is up and running when a person or customer visits it. 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.

Top 10 travel websites with the highest availability levels

% Availability

Website	% Availability
Airbnb	99.99
Cheapflights	99.99
Google Flights	99.99
CheapTickets	99.98
Kayak	99.98
Skyscanner	99.98
Momondo	99.97
Travelocity	99.97
Booking.com	99.96
FareCompare	99.96

- The top 10 travel websites from our analysis exhibit excellent availability, with scores ranging from 99.96% to 99.99%.
- This highlights how much Internet Resilience is a key capability of top-performing websites, ensuring users can access their services almost all the time. Maintaining such high availability is crucial for excellent user experience and retention.

Actionable steps for improvement

Here are 5 actionable steps to improve website performance:

1. **Regular monitoring and testing:** Implement continuous monitoring of all key performance metrics to promptly identify and address issues.

2. **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.

3. **Holistic optimization:** Address not just individual metrics but also their interdependencies. For example, improving DNS and TTFB can collectively enhance overall page load times.

4. **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.

5. **Performance audits:** The choice of CDN provider, for example, significantly impacts performance metrics like DNS and TTFB. Schedule regular audits to review and optimize server configurations, CDN settings, and frontend performance.

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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