February 2024

Catchpoint Industry Benchmarks

Banking Website Performance Benchmark Report

Unveiling the Top Performers and Key Metrics for Success based on Comprehensive Website Performance Analysis

catchpoint

INTRODUCTION

Catchpoint conducted performance analysis on over 50 banking sites to ascertain what constitutes a high-performing site.

The top three sites on the list were **Franklin Templeton, Bank of New York Mellon Corp and Thrivent Financial**. What is common among these sites is that their numbers with respect to Availability and Performance were well within industry standards allowing the users to have a fast-loading website along with one that is truly available and reliable at all times. Each of these sites took less than 2 seconds to load, with an aggregated availability of approximately 99.9%.

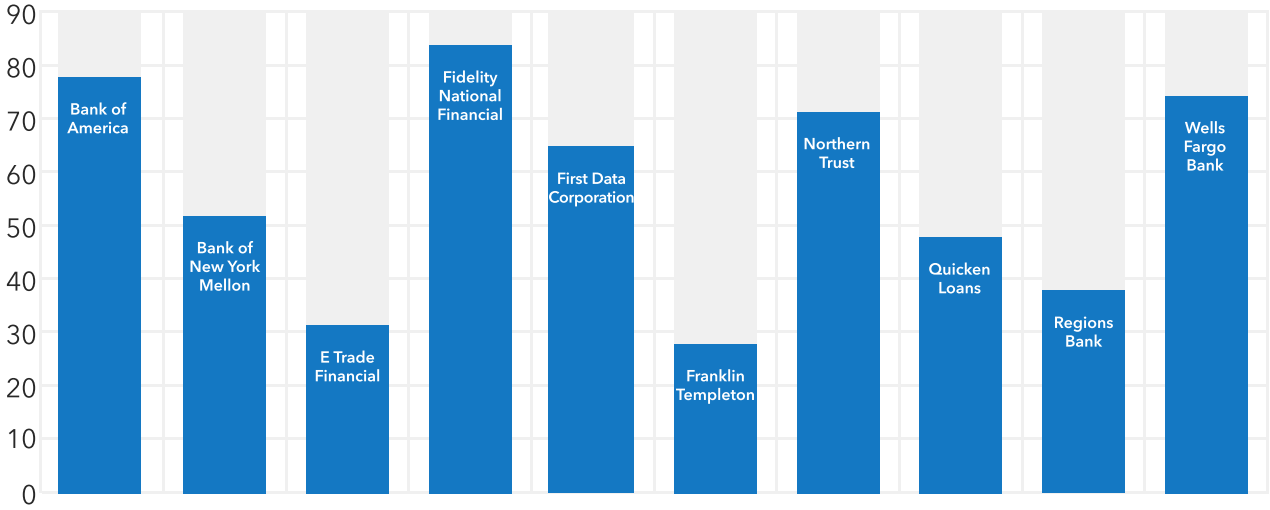
Some of the key metrics that need to be monitored to ensure your websites rank among the top include the following:

1. **DNS time:** Time taken to resolve the domain name to its corresponding IP address
2. **Time to First Byte:** 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 was issued until the browser triggers the onload event. Document complete does not take into account any dynamic requests that may be called later by a JavaScript
4. **Webpage response:** Time until the last Byte of the final element on the page is loaded
5. **Largest Contentful Paint:** Time when the largest content is visible within the view port

   Cumulative Layout Shift: Measures the unexpected shifting of webpage elements while the page is still loading
6. **Availability:** Percentage of time that the website was up and running

1. DNS

One critical aspect of delivering a site is first fetching the base HTML, with DNS times being a key component.



Industry standards recommend that DNS times should be less than 50 ms. It's worth noting that the top-performing sites all have DNS times below this threshold.

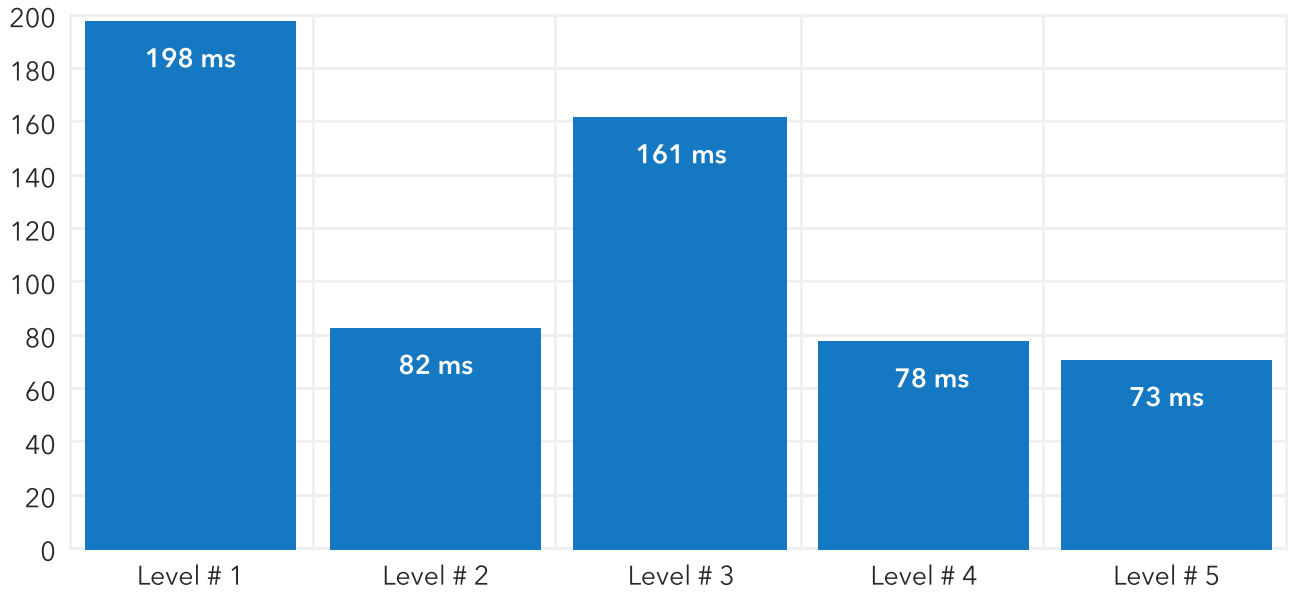
Top 10 Banks with lowest DNS numbers

FRANKLIN TEMPLETON	REGIONS	E*TRADE from Morgan Stanley	Quicken Loans	BNY MELLON
27 (ms) GM	29 (ms) GM	32 (ms) GM	48 (ms) GM	51 (ms) GM
First Data.	NORTHERN TRUST	WELLS FARGO	BANK OF AMERICA	FIDELITY
66 (ms) GM	70 (ms) GM	73 (ms) GM	78 (ms) GM	84 (ms) GM

We see majority of the sites with lower DNS times using Cloudflare as the DNS Providers.

Catchpoint also has explicit DNS tests that enables monitoring the performance of DNS servers and the resolution times at individual levels of resolutions

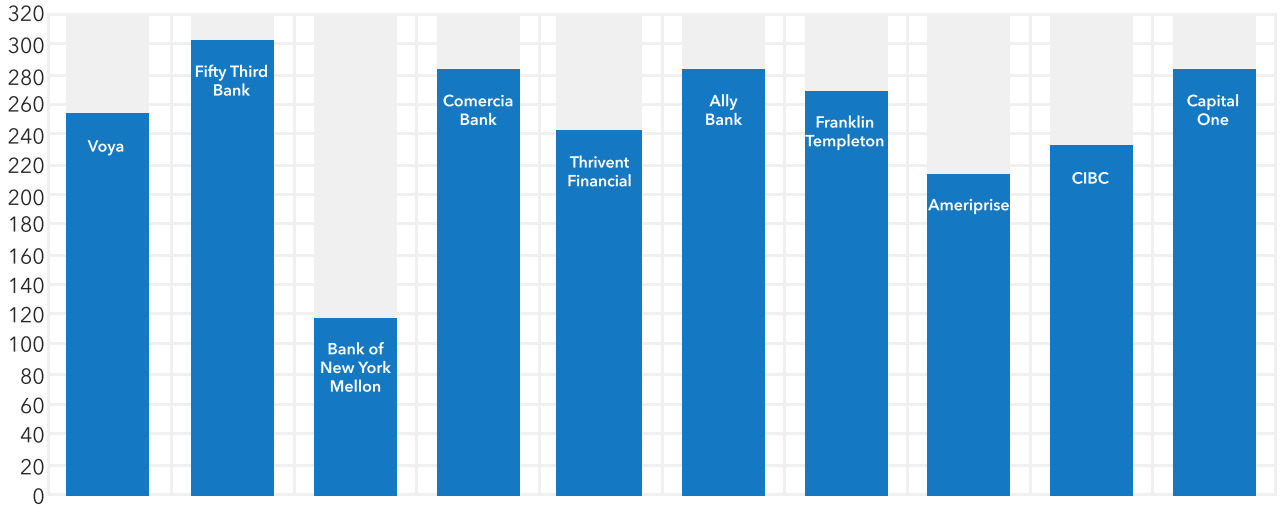
Results of DNS Test



2. TIME TO FIRST BYTE

TTFB is important because it helps understand the responsiveness of the server.

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

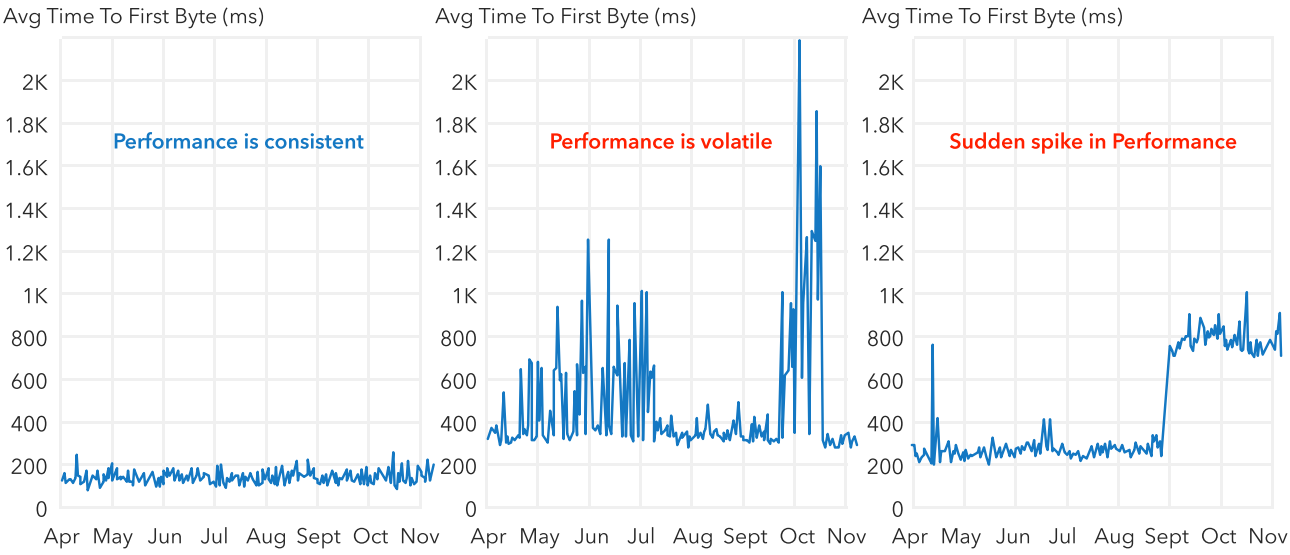


Top 10 Banks with lowest TTFB numbers

BNY MELLON **119** (ms) GM	Ameriprise Financial **213** (ms) GM	CIBC **231** (ms) GM	thrivent **246** (ms) GM	VOYA FINANCIAL **256** (ms) GM
FRANKLIN TEMPLETON **267** (ms) GM	ally **283** (ms) GM	Capital One **284** (ms) GM	Comerica **284** (ms) GM	Fifth Third Bank **302** (ms) GM

When it comes to performance the key factors that need to be considered are consistency and non-volatility. The snippets below show the performance of three different sites over the last 8 months.

While one site has consistently shown good TTFB numbers, another site exhibits volatility, with sudden spikes and drops in TTFB, while the third shows a drastic spike in TTFB.



The above graph is a proof point on why it is important to have a monitoring tool like Catchpoint, which enables continuous monitoring of your websites and the ability to store historic data to understand trends over a period of time.

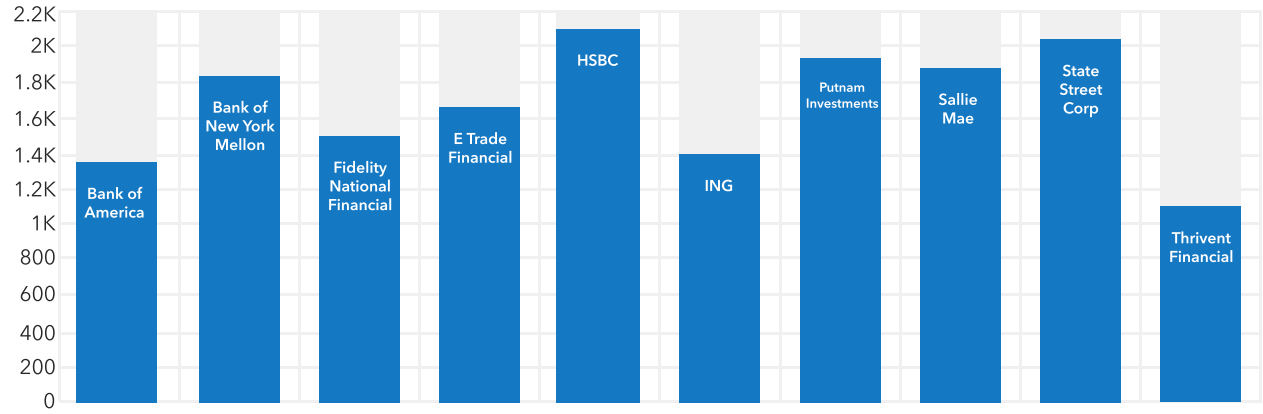
3. DOCUMENT COMPLETE

Document Complete signifies the moment when the browser has finished rendering all the HTML, CSS, scripts, images, and other resources necessary for displaying the web page to the user.

A faster Document Complete time generally leads to a better user experience, as users can start interacting with the page sooner, even if some non-essential elements are still loading in the background.

The recommended value for Document Complete would be around 3 seconds.

GM Document Complete (ms)



Top 10 Banks with lowest Document complete times

thrivent **1090** (ms) GM	BANK OF AMERICA **1350** (ms) GM	ING **1401** (ms) GM	FIDELITY NATIONAL FINANCIAL **1515** (ms GM)	FRANKLIN TEMPLETON **1691** (ms GM)
BNY MELLON **1856** (ms GM)	sallie mae **1928** (ms GM)	Putnam INVESTMENTS **1956** (ms GM)	STATE STREET. **2008** (ms GM)	HSBC **2114** (ms GM)

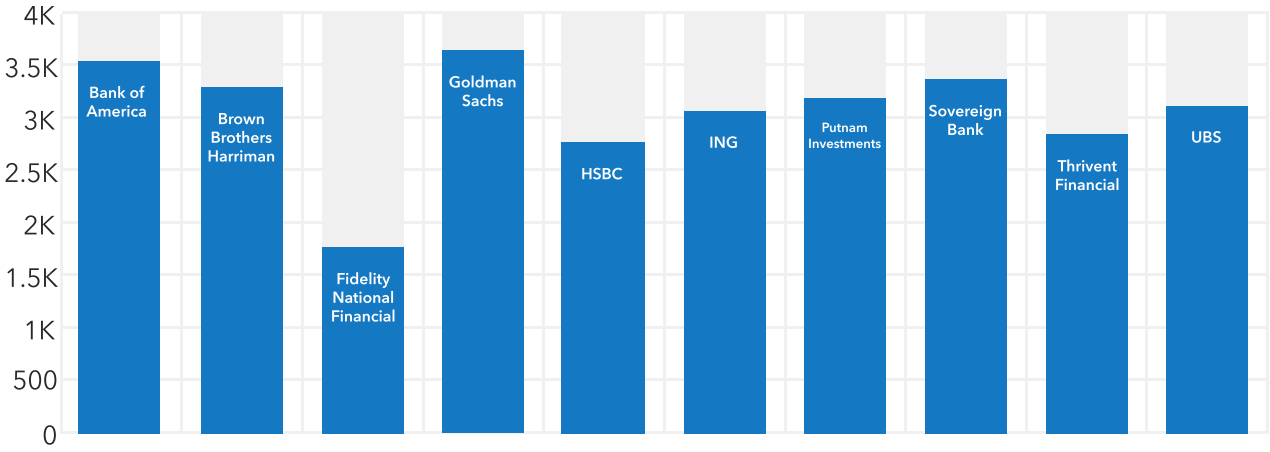
An increase in Document Complete could be attributed to higher response times, or third-party requests with high load times being called before Document Complete.

4. WEBPAGE RESPONSE

Webpage response measures the time taken to download all content on the page, including any requests made after the onload event.

Industry standards for webpage response ideally fall within the range of 4 to 5 seconds.

GM Webpage Response (ms)



Top 10 Banks with lowest Webpage response times

FIDELITY NATIONAL FINANCIAL	HSBC	thrivent	ING	UBS
1666 (ms) GM	2746 (ms) GM	2938 (ms) GM	3031 (ms GM)	3050 (ms GM)
Putnam INVESTMENTS	BROWN BROTHERS HARRIMAN	Sovereign	BANK OF AMERICA	Goldman Sachs
3062 (ms GM)	3344 (ms GM)	3398 (ms GM)	3517 (ms GM)	3542 (ms GM)

Higher webpage responses could be attributed to requests with higher load times, number of requests made on the page (lesser the number of requests better the webpage response), Render blocking elements on the page like Java scripts and CSS etc.

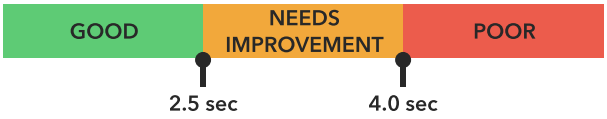
5. CORE WEB VITALS

As of Google's Page Experience update in June 2021, Core Web Vitals are officially considered a ranking factor for websites.

The primary metrics to be considered are LCP (Largest Contentful Paint) and CLS (Cumulative Layout Shift)

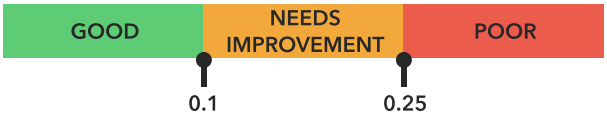
LCP

Largest Contentful Paint



CLS

Cumulative Layout Shift



Top 10 banks with the lowest LCP numbers - (ms) GM

TD Bank 511	thrivent 801
Putnam Investments 917	TIAA 987
ING 1090	State Street 1137
BNY Mellon 1159	UBS 1218
Voya Financial 1224	Ameriprise Financial 1281

Top 10 banks with the lowest CLS numbers - (ms) GM

Capital One 0	citigroup 0
citi 0	Franklin Templeton 0
ING 0	National Bank of Canada 0
Sovereign 0	UBS 0
usbank 0	Brown Brothers Harriman 0.01

6. AVAILABILITY

The final piece of the puzzle would be availability, ensuring whether the site is up or down.

Top 10 banks with highest availability

BNY MELLON 99.98%	Santander 99.97%	thrivent 99.97%	JPMorgan Chase & Co. 99.96%	PNC 99.96%
CIBC 99.95%	Putnam Investments 99.94%	BB&T 99.93%	Fidelity National Financial 99.9%	Franklin Templeton 99.9%

- In addition to the above mentioned metrics, other key components that would directly impact the performance of the website is the page weight and the impact of 3rd party requests on the page.
- As a rule of thumb, it is recommended to keep the page as light as possible, since the page weight directly impacts how long it takes for each request to be made and downloaded.
- When it comes to third-party requests, it's critical to continuously monitor their performance to ensure they don't negatively impact the overall page speed.

Data for Discover.com over the last 30 days

DNS (ms) GM	38.96
Time To First Byte (ms) GM	138.35
Document Complete (ms) GM	3698.8
Webpage Response (ms) GM	5078.88
Largest Contentful Paint (ms) GM	683.75
Cumulative Layout Shift GM	0.35
% Availability	99.93

ABOUT CATCHPOINT

Catchpoint is the Internet Resilience Company™. The top online retailers, Global2000, CDNs, cloud service providers, and xSPs in the world rely on Catchpoint to increase their resilience by catching any issues in the Internet Stack before they impact their business. Catchpoint's Internet Performance Monitoring (IPM) suite offers web synthetics, internet synthetics, RUM, performance optimization, high fidelity data and flexible visualizations with advanced analytics. It leverages thousands of global vantage points (including inside wireless networks, BGP, backbone, last mile, endpoint, enterprise, ISPs and more) to provide unparalleled observability into anything that impacts your customers, workforce, networks, website performance, applications, and APIs.

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