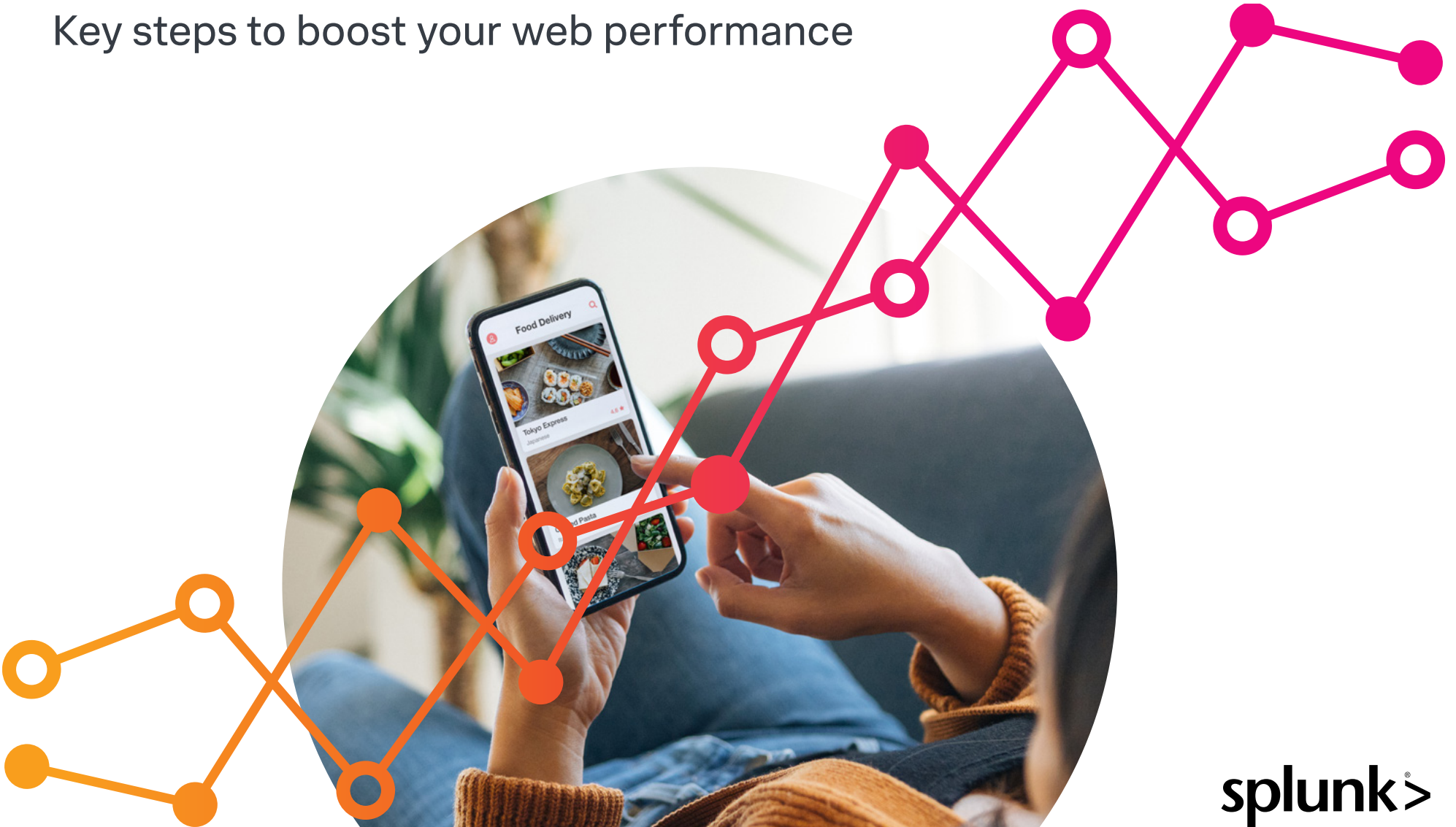# How To Improve Core Web Vitals

Key steps to boost your web performance

splunk>

As we navigate the new digital world, the only constant is change. The best managers and leaders measure how technical change impacts their customers and business performance — pivoting in response to shifting market needs. They know how their technical investments impact revenue, and they align teams around KPIs, including:

• Conversions
• Abandonment
• Product usage

But, what happens if you don't know how new features or services impact customers, or haven't established "what good means" for user experience or performance across web page and mobile apps? Or worse, you have no idea how to benchmark performance or user experience? Do we rely solely on uptime to report on the success or failure of a new product roll out?

Here's some tough news: It's possible that you're doing everything right, but you didn't pay close enough attention to your Core Web Vitals. It's a new-ish metric that plays an important role in how your web page or mobile application impacts everything from user experience, to search rankings.

We'll break down the steps to getting it right using digital experience monitoring (DEM). With a healthy observability practice — including synthetic monitoring and real user monitoring (RUM) — Core Web Vitals may quickly become one of your favorite metrics.

What are Core Web Vitals?

In May 2020, Google announced that Core Web Vitals would be part of the Page Experience update. Google cited both internal and industry research as the reasons for the update. The findings of the user research wasn't surprising.

Users largely prefer pages that load smoothly and quickly — speed matters, not just the words on the page. The quality of user experience was important, obviously, and Google added a new way to value that metric.

"While some aspects of user experience are site and context specific, there is a common set of signals — **"Core Web Vitals"** — that is critical to all web experiences. Such core user experience needs include loading experience, interactivity, and visual stability of page content, and combined are the foundation of the 2020 Core Web Vitals."[1]

There are three Core Web Vitals metrics:

- **Largest Contentful Paint (LCP)** measures how fast the largest element (images, videos, animations, text, etc.) can load and appear on a website.
- **First Input Delay (FID) / Total Blocking Time (TBT)** shows how responsive a website's pages are when users interact with them for the first time. It also measures how fast a website's browser can provide the result for users.
- **Cumulative Layout Shift (CLS)** ensures that a website's pages are without unexpected, confusing movements that might disturb users from consuming the content.

Core Web Vitals

1. LOADING

LCP
Largest
Contentful
Paint

POOR	4.0 sec.
NEEDS IMPROVEMENT	2.5 sec.
GOOD	

2. INTERACTIVITY

FID
First Input
Delay

POOR	300 ms
NEEDS IMPROVEMENT	100 ms
GOOD	

TBT
Total Blocking
Time

POOR	300 ms
NEEDS IMPROVEMENT	100 ms
GOOD	

3. STABILITY

CLS
Cumulative
Layout Shift

POOR	.25
NEEDS IMPROVEMENT	.1
GOOD	

1 Google Chromium Blog, May 5, 2020

These signals measure how fast users interact with your website or mobile application and how quickly the content loads. Images that load quickly equate to a good user experience and a good Core Web Vitals score.

If you're old enough to remember dial-up internet, you remember images that loaded one pixel at a time. Maybe not that slow, but it felt like forever. We've come a long way from those days. Now, we expect our content to load under four seconds. Anything longer and we either move on to another page or we become frustrated with the experience. Yes, rage clicks are a thing — it's the need to click repeatedly because your page isn't loading. (That's our unofficial definition.)

These precious seconds often equate to hundreds of thousands of dollars spent or lost every year. We value our time and we expect that our favorite businesses will do the same. If they don't, we may navigate to a competitor's site and never return. Core Web Vitals are the most effective way to quantify user experience.

While it may all seem very technical, it is important to understand what is being measured. To put it simply, Core Web Vitals focus on three aspects of a good UX:

• Loading performance

• Interactivity

• Visual stability

> Core Web Vitals are the most effective way to quantify user experience.

Loading performance

For some websites, the largest element is images. Optimizing all images will make your page significantly lighter, improving several factors including: loading speed, LCP score and UX. How quickly does it feel like the page has "finished"? If it's not there yet (you can't see the words or images), the user doesn't feel like it's ready to interact with.

Interactivity

How quickly is the page able to respond to the user's actions? We mentioned "rage clicks" already — these occur when the user clicks and nothing happens.

Applications and websites must provide proper dimensions for images and embeds. A CLS score below 0.1 is considered poor. To improve your CLS score, you need to have your dimensions in place. Setting proper width and height helps the browser allocate the correct amount of space on the page while the element is loading.

Visual Stability

How long does the content shift around until it reaches a steady state? At times, the video might look proper on the backend, but it may end up looking way too big or messy on the front end. See to it that the video you insert goes well with the interface of your site. Make sure to set proper dimensions for embeds, like when inserting videos from YouTube into your site.

How to win at CWV

Pay close attention to your competitors. You do not necessarily have to meet or exceed Google's Core Web Vitals guideline scores but rather meet or exceed your competitors' scores. There are free tools that will help you assess how close (or far) you are from your competition. So, how does this impact SEO? If a competitor measures Core Web Vitals and you don't, the competitor will rank more highly.

Don't get too wrapped up in all the tech jargon behind Core Web Vitals. Or, in other words, don't overcomplicate it. Treat this as an opportunity to uplevel your website or mobile applications.

The key takeaway: Mobile responsiveness and performance are now the most important metrics to focus on when optimizing a site for search rankings.

Does your website load quickly? If the answer is no, consider seeking a new host or upgrade your hosting package.

Is your website mobile-friendly? Test as many devices as possible and make sure your website looks and feels smooth on a smartphone, tablet or computer.

How old is your website? Any website more than a few years old may perform more poorly and load more slowly than newer websites.

Do you have the resources to improve your Core Web Vitals? There are free resources that will help you get a baseline understanding of how your website or app ranks. You can start with free chrome plugins. Once you've assessed what your biggest needs are, it may be time to add synthetic monitoring and real user monitoring (RUM) to your toolbox.

What is DEM and why is it vital to performance and UX? APM and IM solutions have an important role to play — measuring performance of backend services and infrastructure — but they can only give you information in the locations where they're installed. In order to get a customer-focused view of system performance and UX, forward-looking organizations have turned to digital experience monitoring (DEM). There are two methods of accomplishing DEM and understanding what users are actually experiencing: synthetic monitoring and real user monitoring (RUM).

DEM lets you access complete front-end data from the user experience, network and web browser to proactively detect, communicate and resolve issues across your interaction channels before your customers notice. You'll be able to troubleshoot customer facing issues quickly and benchmark and improve UX on web browsers, devices, OSs, ISPs and across locations. Synthetic monitoring and real user monitoring (RUM) are two important components of DEM.

> The key takeaway: Mobile responsiveness and performance are now the most important metrics to focus on when optimizing a site for search rankings.

Synthetic monitoring

Synthetic monitoring is an application performance monitoring practice that emulates the paths users might take when engaging with an application. It uses scripts to generate simulated user behavior for different scenarios, geographic locations, device types and other variables. Its ultimate goal is to help organizations find, fix and prevent web performance issues impacting the user experience. Synthetic monitoring has the advantage of being easy to set up and can be configured to work with any URL in your system.

Real user monitoring (RUM)

RUM is another important component of a DEM solution. For site reliability engineers (SREs) and service owners responsible for fixing customer-facing issues and improving user experience on web and mobile, RUM helps pinpoint problems faster with end-to-end visibility of your entire environment, and the most comprehensive visibility of web and mobile app performance.

Real user monitoring (RUM) provides visibility into how real users interact with an application. With a RUM tool, users can monitor frontend performance and understand how optimizations are improving the customer experience. RUM tools have evolved to bridge the gap between application performance and its impact on user experience. The user-level insights of a RUM tool helps teams focus on the right performance opportunities, deliver a fast application, delight customers and achieve business objectives.

What's more, RUM automatically measures the Core Web Vitals, the statistics mentioned above that Google uses to determine page ranking.

Get started

Now that you've got a better understanding of synthetic monitoring RUM, the components that make it work and the benefits it can bring to your overall business by improving performance and UX, it's time for you to take the next step.

Download a free 14-day trial of Splunk Synthetic Monitoring or check out Supercharge Your Observability to learn more.

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