

# Good news for Chrome users comes in the form of speed boost

November 2 2016, by Nancy Owano

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(Tech Xplore)—Speed is an important factor in choosing a browser favorite. The latest news is that Chrome on Windows will see a speed boost. This is apt to strengthen Chrome all the more, as one of today's easiest, most popular browser choices.

The news that Chrome on Windows will be faster traveled quickly among tech-watching sites; it was announced by Sébastien Marchand in the Chromium [blog](#).

"Starting in Chrome 53," said the blog, "Chrome has started using Microsoft's Profile Guided Optimization (PGO) technology to make Chrome up to 15% faster on Windows."

So 64-bit Chrome on Windows is using PGO as of version 53, which he referred to in that opener, and 32-bit Chrome is using it as version 54.

The PGO technology at work will have an effect on load and startup times. You can expect improvements in new tab page load time; page load (time to first paint); and startup. What does PGO do that's so great?

Marchand's blog discussed what it brings to Chrome.

"Chrome is a huge software project with more than a million functions in its source code. Not all functions are equal - some are called frequently, while others are rarely used. PGO uses data from runtime execution that track which functions are most common to guide optimization. To gather this data, the nightly build process now produces a special version of Chrome that tracks how often functions are used. PGO then optimizes those high-use functions for speed, in some cases increasing the binary size of those functions. To balance out that increase, PGO also optimizes less-used functions with smaller, though slightly slower code. These trade-offs result in higher overall performance, and a smaller overall code footprint."

He went on to say that PGO optimizes the memory location of the code, "moving rarely-used functions away from frequently-used ones in memory. This results in more optimal use of the CPU instruction cache by avoiding caching of less-used code, increasing overall performance."

There are other tricks also used by PGO to make Chrome faster, he said, "and they add up to great results."

Simply put, "PGO works by adapting to user's needs depending on how they use a particular app, or in this [case](#), a particular feature in Google Chrome," said Jonathan Fairfield in *ThaiTech*.

Also talking about PGO benefits, *Android Headlines*' Dominik Bosnjak said, "This way of handling things statistically leads to [better](#) average performance and is generally a rather intelligent way to manage browser resources."

Tyler Lee in *Ubergizmo* said "Chrome using PGO was available for the 64-bit version of the app since Chrome 53, but it is only now coming to the 32-bit version in Chrome 54. The browser should update itself but in case it hasn't, you [can](#) download the latest version from Google's [website](#)."

In the bigger picture, one may consider what Chrome's position is against other browsers. Tech tweaks continue coming down the pike among browser competitors so Chrome's team must not rest. Like other browser contenders, they always look for ways to stay in the game.

JC Torres in *SlashGear*: "Although still one of the major [browsers](#), no matter what OS, Google Chrome is experiencing renewed and more aggressive attacks by its rivals, particularly Microsoft Edge and Opera."

*Softpedia* said on Tuesday that "According to third-party data, Google Chrome is currently running on more than 50 percent of the world's [PCs](#), while Internet Explorer is rapidly losing ground as Microsoft is pushing everyone to Edge browser."

Liam Tung, *ZDNet*, said that "Speed is one way Google can make Chrome more [appealing](#) to Windows users in the face of competition from Microsoft's Windows 10 Edge browser."

How the changes work out in numbers: There is an average 5.9% increase in page load times, 14.8% improvement in new tab page load times, and a 16.8% rise in Chrome startup time.

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