Google takes a tiny step toward fixing AMP’s URL problem

When you click a link on your phone with a little lightning bolt next to it in Google search, you’re getting something in the AMP format. AMP stands for “Accelerated Mobile Pages,” and you’ve probably noticed that those pages load super quickly and usually look much simpler than regular webpages. You may have also noticed that the URL at the top of your browser started with “www.google.com/somethingorother” instead of with the webpage you thought you were visiting.

Google is trying to fix that today by announcing support for something called “Signed Exchanges.” What it should mean is that when you click on one of those links, your URL will be the original, correct URL for the story. Cloudflare is joining Google in supporting the standard for customers who use its services.

In order for this thing to work, every step in the chain of technologies involved in loading the AMP format has to support Signed Exchanges, including your browser, the search engine, and the website that published the link. Right now, that means the URL will be fixed only when a Chrome browser loads a Google search link to a published article that has implemented support.

A lot happens when you click a link, and it’s getting more complicated

Got all that? Probably not because it’s super complicated, and there are a kajillion gotchas and proposed web standards behind nearly every clause in the last three paragraphs. Let’s zoom out a bit, and talk about what AMP *is* and what it’s *trying* to become. We can start with the thing we’ve been

talking about for over four years now:

The mobile web still sucks.

Lots of companies have tried to fix the problem. On one hand, there are ad blockers, various do-not-track browser updates, and ad industry promises to be nicer. None of these efforts have come to much because it's a game of cat and mouse with the people trying to make the web better and those who make money from crappy ad experiences.

That's why, on the other hand, there have been various attempts to supplant the web with something a little more controlled and mobile-centric. That's what Facebook Instant Articles were and that's what, in large part, Apple News is now. These new standards are also better on phones because they can be packaged up, preloaded, and sent out from any server.

Google AMP also fits in this category, but Google is trying to split the difference between the openness of the web and the safe, controlled nature of those other standards. An AMP article can't have as much of the JavaScript crap you'll find on a webpage, and it can be packaged up and served from anywhere.

This brings us to the problem. Since Google is trying to make AMP a web standard, it needs to use web standards, namely the URL. But the URL has always been a sort of promise: the thing you are looking at came from the place it says it comes from. It's called an "address" for a reason. AMP, because it's based on the web, doesn't break that contract, even though the article might get served by somebody else. That's why you see a different URL on some AMP articles. Even though a *Verge* AMP article definitely comes from us, it might get served by a Google server.

Here, for example, are three different URLs, all for the same story. I've bolded the parts that tell you that you're looking

at AMP:

> *https://www.theverge.com/circuitbreaker/2018/9/11/17842556/ipad-logitech-crayon-apple-pencil-stylus-review*
>
> *https://www.theverge.com/**platform/amp**/2019/4/16/18311894/logitech-express-alexa-remote-control-announced-features-pricing*
>
> ***https://www.google.com/amp/s**/www.theverge.com/platform/amp/2019/4/16/18311894/logitech-express-alexa-remote-control-announced-features-pricing*

It's the last one that's the real problem – both in terms of the page's functionality and in terms of trust. It's also a huge hassle when you share a URL. Sometimes your browser can be smart and share the "real" one. But more often than not, you end up sending the AMP URL, and it looks silly on a desktop browser.

That's what this whole Signed Exchanges thing means to fix. All of the parties in the chain of technologies tell each other that they trust each other, and therefore, the Google server would get permission to serve you a URL that starts with www.theverge.com instead of www.google.com. It sort of breaks the promise of the URL address: it says www.theverge.com, but the server is Google's. In theory, that's not a problem because the publisher will have signed off that they trust Google to do that.

And actually, a correction: the Signed Exchanges standard means that the publisher is giving any distributor who can show you AMP content the ability to give you the publisher's URL. I'd explain it, but these tweets from a Google engineer manage to explain it better in a couple 240-character tweets than I have in the previous paragraphs:

> *This is a HUGE difference. If all we wanted to do was have publishers say "hey browser, I trust Google to impersonate*

> *me" that would be trivial (CDNs effectively already do this). But not breaking the trust or privacy models of the web is what makes this so darn complicated.*
>
> *— Rick Byers (@RickByers) April 17, 2019*

That means Google has to get publishers on board to support the standard, which means yet more work for companies that are already burdened with making sure their content appears on the web, Apple News, AMP, and who knows where else. (For the record, I don't know whether *The Verge* or Vox Media plans to support Signed Exchanges.) It's the classic "the chicken or the egg" problem of all web technologies, and I expect a lot of publishers are going to take a similar wait-and-see approach. That's going to be a big hurdle for Google going forward.

All of this work is part of a generalized push to have AMP get subsumed or replaced by something called the "Web Packaging Standard," which (very basically) allows webpages to be packaged up and zoomed around the internet so they can be preloaded and served more quickly. That's what AMP does, too, but the new standard should be a little more universal.

Everything with web standards takes time. There's no yearly cadence of a tech executive getting onstage at a keynote event and introducing an amazing technology that you can subscribe to *tomorrow*. Instead, there's arguing in email threads, consensus building among stakeholders, and various companies holding out support or making rational decisions about the effort not being worth the payoff. It's slow, messy, and

complicated. It’s also — at least, in theory (*Google*) — not controlled by any single company or entity.

This whole Signed Exchanges thing is a tiny step, but it’s a tiny step in the right direction.

Updated at 11:45 PM ET with the correction about how Signed Exchanges work from a technical perspective. I regret the original error in the article’s description of how the permission model works.

https://www.theverge.com/2019/4/16/18402628/google-amp-url-problem-signed-exchange-original-chrome-cloudflare