

LOUISE MATSAKIS SECURITY 02.12.19 06:24 PM

# WHAT HAPPENS IF RUSSIA CUTS ITSELF OFF FROM THE INTERNET



VLADIMIR GERDO/GETTY IMAGES

THE WORLD'S INTERNET infrastructure has no central authority. To keep it working, everyone needs to rely on everyone else. As a result, the global patchwork of [undersea cables](#), [satellites](#), and other technologies that connect the world often ignores the national borders on a map. To stay online, many countries must rely on equipment outside their own confines and control.

Nation-states periodically attempt to exert greater authority over their own portions of the internet, which can lead to [shutdowns](#). Last month, for example, the government of the Democratic Republic of Congo [turned off its internet](#) during a highly contested [presidential election](#). Now Russia, too, wants to test whether it can disconnect itself from the rest of the world, [local media](#) reported last week. But Russia is much larger than the DRC, and it has significantly more sophisticated infrastructure. Cutting itself off would be an onerous task that could have myriad unintended consequences. If anything, the whole project illustrates just how entangled—and strong—the global internet has become.

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internet, once you built a resilient internet infrastructure, than you'd think, says Andrew Sullivan, CEO of Internet Society, a nonprofit that promotes the open development of the internet.

According to local news reports, Russia's disconnection test is part of a new law parliament proposed in December, which would require the country's internet providers to ensure the independence of Runet, or Russia's internet. The regulation would mandate that Russian ISPs have the technical means to disconnect from the rest of the world and reroute internet traffic through exchange points managed by Roskomnadzor, Russia's telecommunications and media regulator. The country reportedly wants to test Runet's independence by April 1, though no official date has been set and the new regulation has yet to pass. Roskomnadzor did not respond to a request for comment.

The internet was invented in the United States, and US companies now control a significant portion of the infrastructure that powers it. It's possible that Russia simply wants to gain more autonomy over Runet, but Russian president Vladimir Putin could also be seeking to beef up his cyberwar capabilities or to further censor the online information available to his citizens. While its motives are fuzzy, what's clear is that Russia has been preparing for greater internet independence for years. In fact, it first proposed disconnecting from the global net back in 2014.

The process by which it would do so remains challenging. "In short, Russia would need to do two things: Ensure that the content Russians seek to access is actually located somewhere in the country, and ensure that routing and exchanges could all occur domestically," says Nicole Starosielski a professor at New York University and author of *The Undersea Network*. Russia has recently tried to do both. In 2014 it passed a law that required companies who collect personal data about Russian citizens to store it within the country. (Sites that refused to comply, like LinkedIn, were blocked.) And the country has reportedly developed its own alternative Domain Name System, so that it can access and route internet traffic by itself.

No matter how much Russia has prepared, however, unanticipated issues will

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says Paul Barford, a professor at the University of Wisconsin–Madison who studies computer networking. It’s difficult for internet service providers to know precisely how reliant they are on every piece of infrastructure outside their borders. “Because of the complexity across all levels of the protocol stack, there could be catastrophic failures somewhere,” says Barford.

Even if disaster didn’t occur—like banking, hospital, or aviation entities failing to connect—many websites would likely stop working. Most web pages rely on multiple servers to function, which may exist in disparate parts of the world. A news site, for example, may depend on an Amazon Web Services cloud server, Google tracking software, and a Facebook commenting plug-in, all of which are located outside of Russia. “Every [web] page is made of 1,000 different things. If you’re running a website in Russia, you’d have to figure out where everything is coming from,” says Andrew Blum, the author of *Tubes: A Journey to the Center of the Internet*.

What about everyone else? While the United States might not be affected were Russia to shut off access to the global internet, the test could cause problems for other nations who route traffic through the country. “This is not just affecting them,” says Sullivan. “We don’t know if people have transit going across Russia.”

In trying to build a fully autonomous internet, what Russia is really doing is creating a weaker one. The global internet works so well because there are numerous paths for traffic to flow—it’s hard to totally prevent information from getting to its destination. For example, [if an undersea cable ruptures](#) between Europe and the US, your email or WhatsApp message to someone in France can simply flow over another one. Russia wants to build a system where it can account for alternative pathways, and shut them off at will.

“It represents a failure of their network. It’s a new design that has made the Russian portion of the internet less reliable,” says Sullivan. “If you engineer the system so that it’s possible to turn it off, that means you have a system that could turn off by accident.”

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