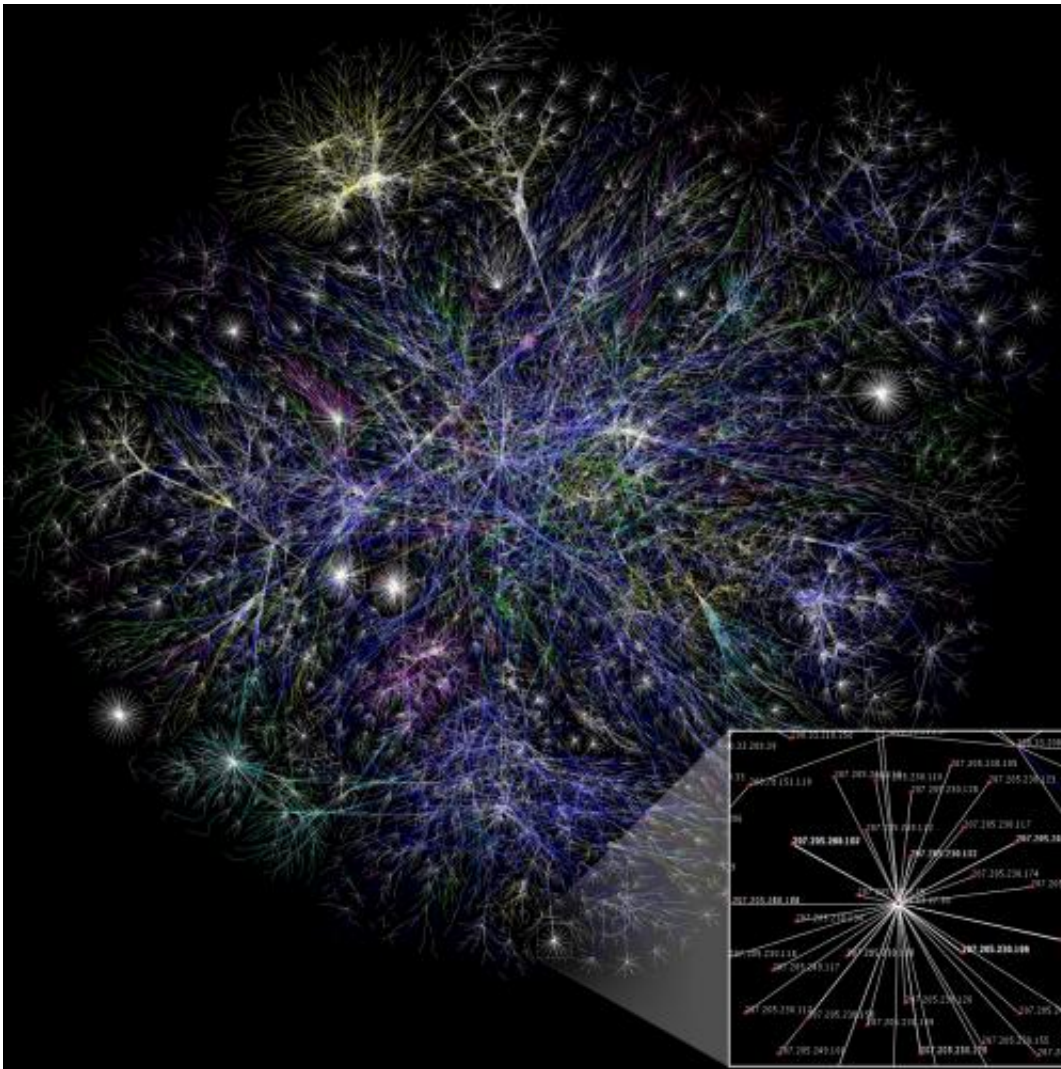


Expert discusses the major surge in internet traffic triggered by physical distancing

April 28 2020, by Sandi Miller



Partial map of the Internet based on the January 15, 2005 data found on opte.org. Each line is drawn between two nodes, representing two IP addresses. Credit: Wikimedia Commons

With various physical distancing guidelines in place throughout the world as a means to curb the spread of COVID-19, the internet has experienced a dramatic spike in overall traffic. MIT Professor Tom Leighton is chief executive officer and co-founder of Akamai Technologies, a global content delivery network, cybersecurity, and cloud service company that provides web and internet security services. At MIT he specializes in applied mathematics in the Department of Mathematics and is a member of the Computer Science and Artificial Intelligence Laboratory (CSAIL). The Department of Mathematics Communications spoke to Leighton about his company's response to the world's increased reliance on the internet during the COVID-19 pandemic.

Q: How is the pandemic changing the way people use the internet?

A: The internet has become our lifeline as we face the challenges of working remotely, distance learning, and sheltering in place. Everything has moved online: religious services, movie premieres, commerce of all kinds, and even gatherings of friends for a cup of coffee. We've already been doing many of these things online for years—the big difference now is that we are suddenly only doing them online.

When we've emerged from the pandemic, it seems quite possible that our usage of the internet for nearly every facet of our lives will have increased permanently. Many more people may be working remotely even when offices reopen; the shift to virtual meetings may become the norm even when we can travel again; a much greater share of commerce may be conducted online even when we can return to shopping malls; and our usage of social media and video streaming could well be greater than ever before, even when it's OK to meet others in person.

Q: How much more use is the internet seeing as a result of the pandemic?

A: Akamai operates a globally distributed intelligent edge platform with more than 270,000 servers in 4,000 locations across 137 countries. From our vantage point, we can see that global internet traffic increased by about 30 percent during the past month. That's about 10 times normal, and it means we've seen an entire year's worth of growth in internet traffic in just the past few weeks. And that's without any live sports streaming, like the usual March Madness college basketball tournament in the United States.

Just a few weeks ago, we set a new peak record of traffic on the Akamai edge platform of 167 terabytes per second. That's more than double the peak we saw one year before. These are truly unprecedented times. The internet is being used at a scale that the world has never experienced.

Q: Can the internet keep up with the surge in traffic?

A: The answer is yes, but with many more caveats now.

Around the world, some regulators, major carriers, and [content providers](#) are taking steps to reduce load during peak traffic times in an effort to avert online gridlock. For example, European regulators have asked telecom providers and streaming platforms to switch to standard definition video during periods of peak demand. And Akamai is working with leading companies such as Microsoft and Sony to deliver [software updates](#) for e-gaming at off-peak traffic times. The typical software update uses as much traffic as about 30,000 web pages, so this makes a big difference when it comes to managing congestion.

In addition, Akamai's intelligent edge network architecture is designed to

mitigate and minimize network congestion. Because we've deployed our infrastructure deep into carrier networks, we can help those networks avoid overload by diverting [traffic](#) away from areas experiencing high levels of congestion.

Overall, we fully expect to maintain the integrity and reliability of website and mobile application delivery, as well as security services, for all of our customers during this time. In particular, Akamai customers across sectors such as government, health care, financial services, commerce, manufacturing, and business services should not experience any change in the performance of their services. We will continue working with governments, network operators, and our customers to minimize stress on the system. At the same time, we'll do our best to make sure that everyone who is relying on the [internet](#) for their work, studies, news, and entertainment continues to have a high-quality, positive experience.

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