



The Big Surge-

How Internet Activity is Changing During a Global Pandemic

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Introduction

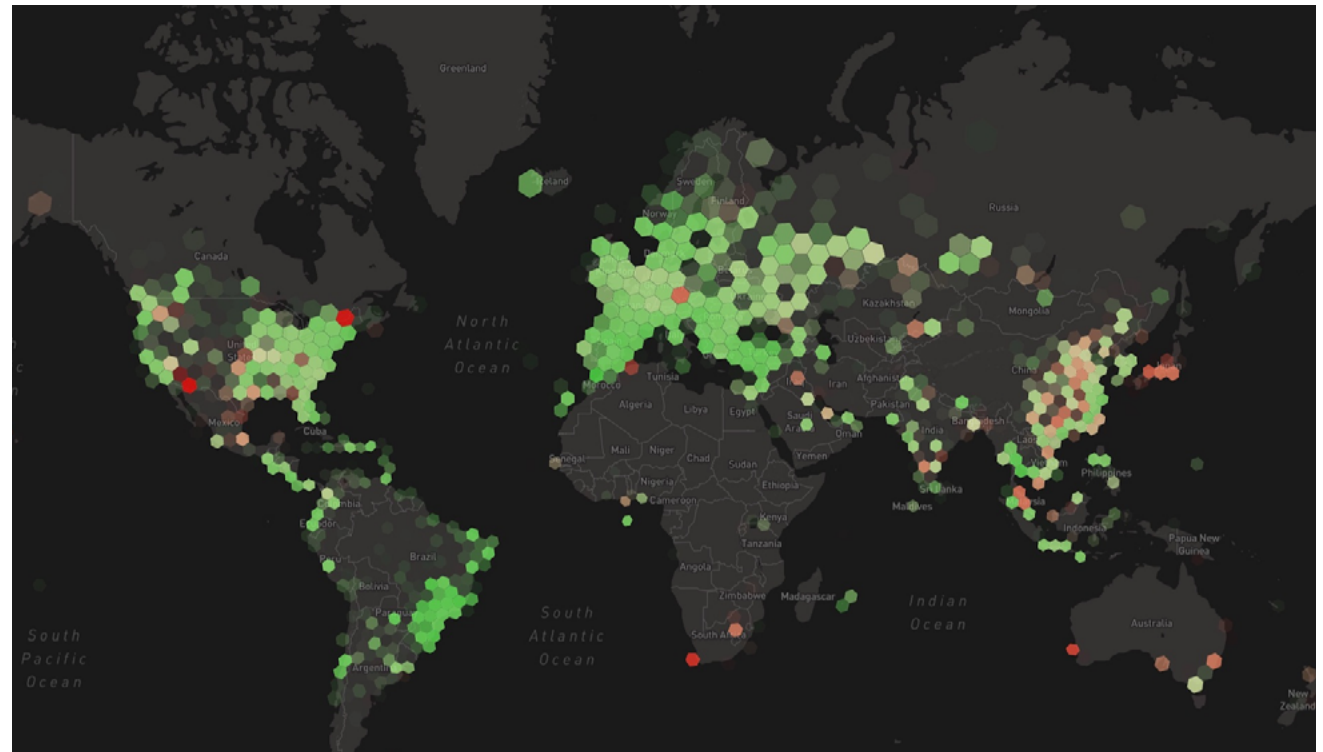


The Internet has evolved to become a lifeline for modern society, impacting how we communicate, stay connected with loved ones and colleagues and be entertained. In March 2020, many countries around the world issued "shelter in place" mandates to help curb the spread of COVID-19.

Cloudflare maintains data centers in 200+ cities around the world, which include peering relationships with many of the leading Internet exchanges.

The changing face of Internet utilization

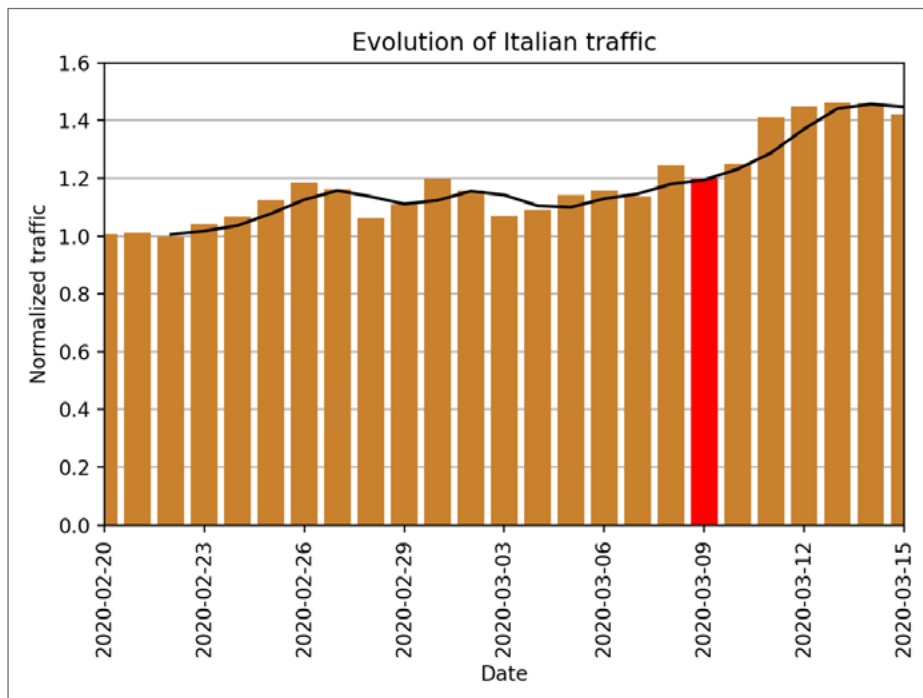
The global pandemic is changing how the world does business. Schools and offices are being closed, forcing employees to work remotely and students to learn virtually. Restaurants and grocery stores are increasingly relying on online delivery services to help mitigate the loss of business for in person traffic.



● Increases ● Decreases

Increases in global traffic around the world, comparing early January and late March 2020

The changing face of internet utilization cont'd

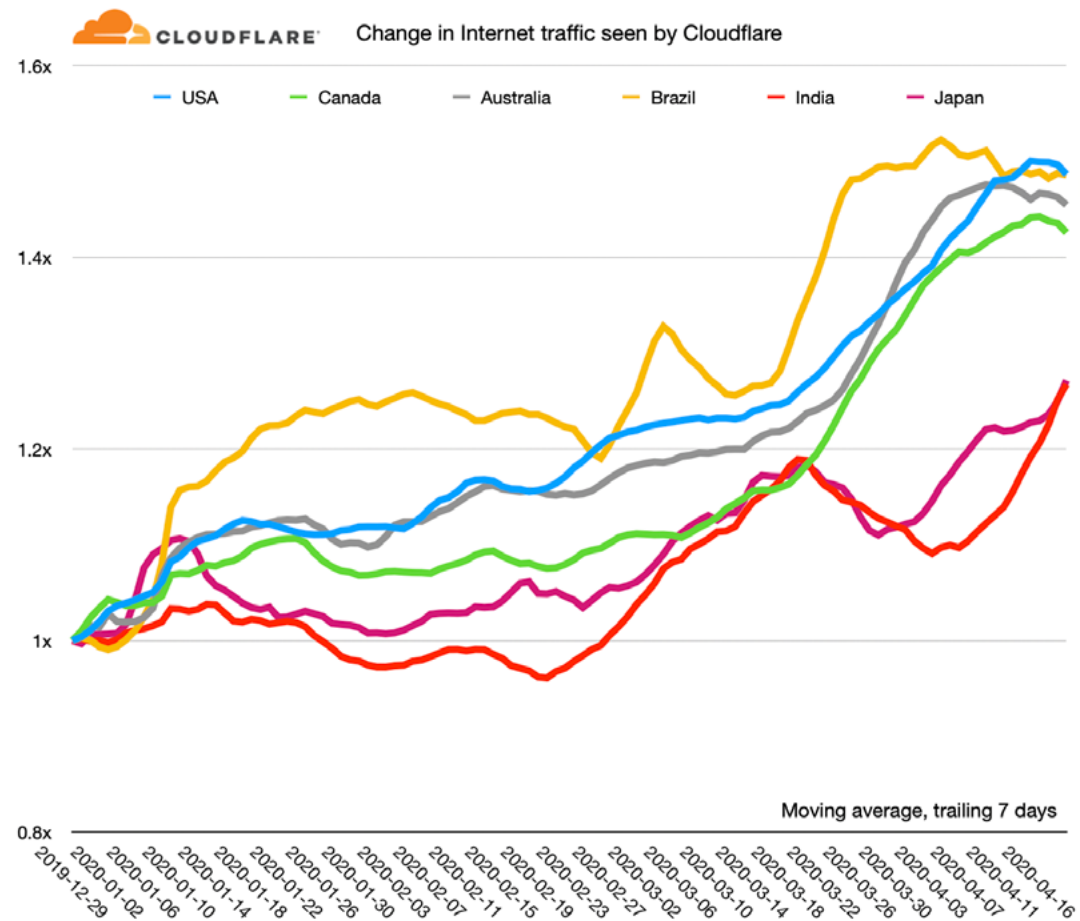


Traffic at our data centers in Italy

Italy has been one of the most impacted regions by the global pandemic. On March 9th, the government issued a lock down. Our data centers in Italy consequently saw an increase in traffic in the days following.

The changing face of internet utilization cont'd

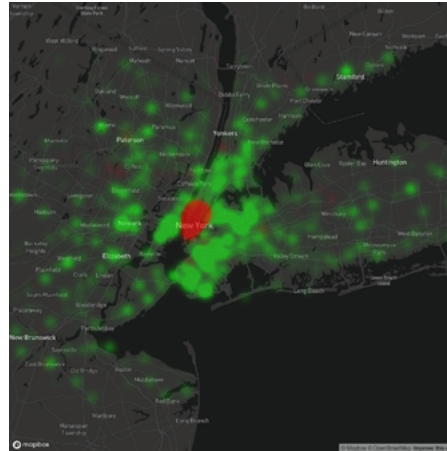
Worldwide Internet traffic has seen increases at many Cloudflare data centers in each region.



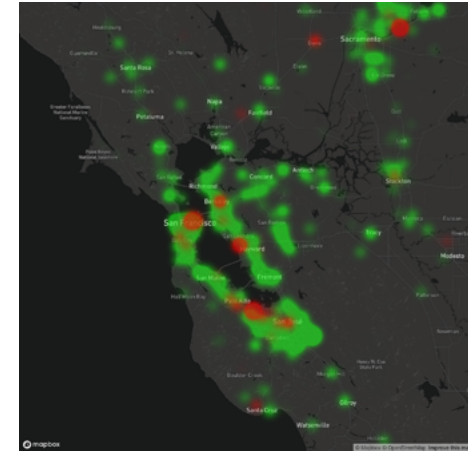
Hollowing out of city centers

In various cities around the world, business centers are reflecting decreased usage while surrounding suburbs and outskirts are showing increases of as much as 48%.

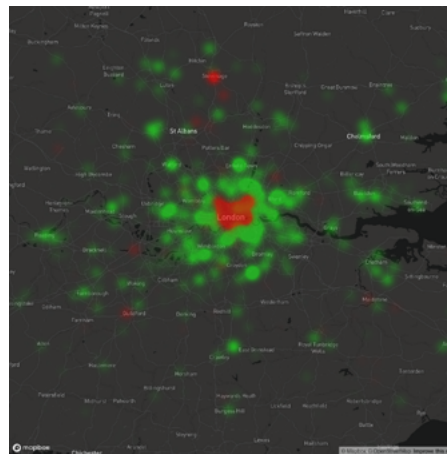
The following maps show changes in Internet utilization comparing early January to late March 2020.



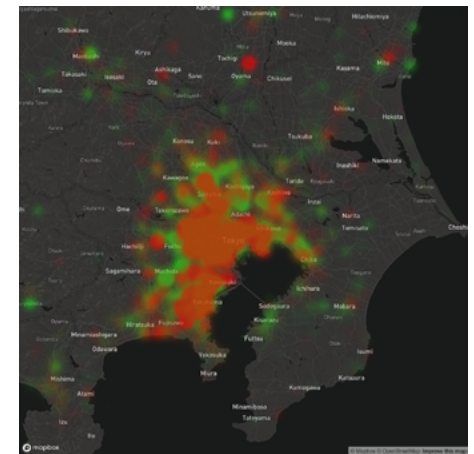
New York 34%



San Francisco 48%

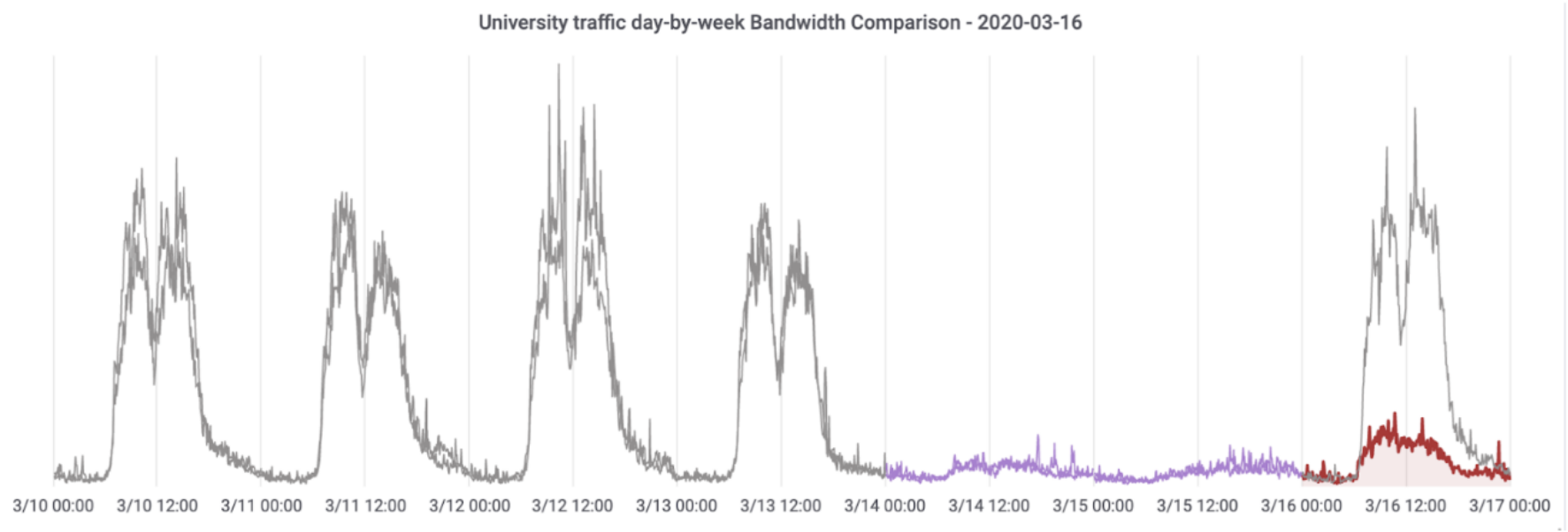


London 23%



Tokyo 18%

Changing usage patterns



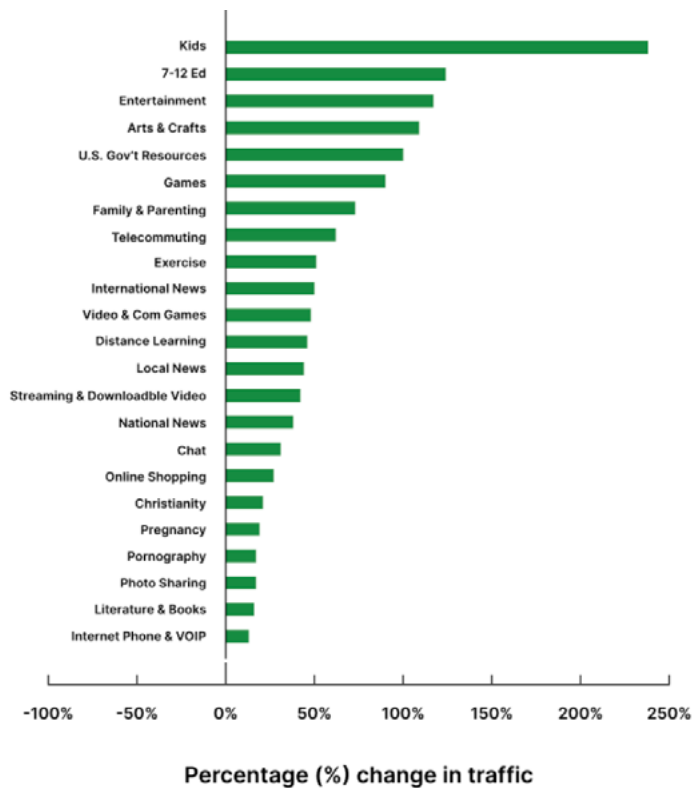
Colleges and universities were amongst the first institutions to be locked down as the pandemic measures became more globally dispersed starting March 14th.

We're also seeing a decrease in traffic on mobile networks, yet an uptick on mobile browser usage.

Changing usage patterns cont'd

► Top categories where we're seeing increased traffic

With kids being kept at home, parents are now having to balance work and home life even further. Finding activities to keep their kids occupied - these types of activities sites for kids are seeing the highest increase in traffic.



► 250% increase in traffic to sites related to kids activities.

As schools are reverting to online learning, these sites on Cloudflare are seeing increases.

► 100% increase in traffic educational Grade 7-12 sites

As people are no longer allowed to go out to events, bars and restaurants they must now find alternate types of activities to engage in when they're not working.

Entertainment (which include news sites, streaming media), arts and crafts, and gaming sites all saw a doubling in traffic.

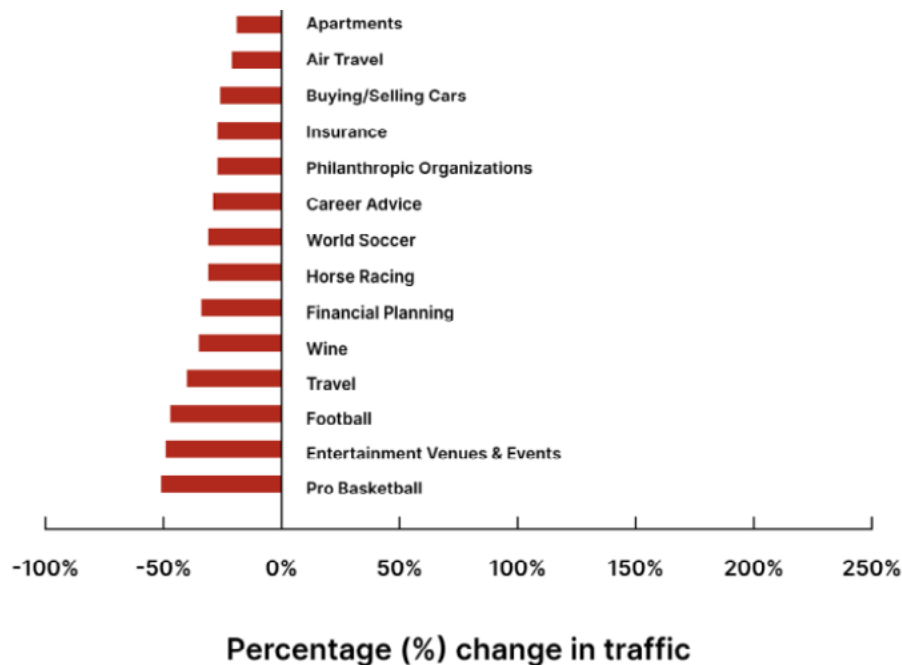
US Government resources rounds up the top 5 list for increased traffic.

It's also worth noting that online shopping experienced about a 50% increase in traffic as more consumers are either ordering items for delivery versus in person shopping.

Changing usage patterns cont'd

► Sites where we've seen the greatest decline in traffic

Many sites related to in-person events and activities experienced declines in traffic.



► Sports, Entertainment venues & events

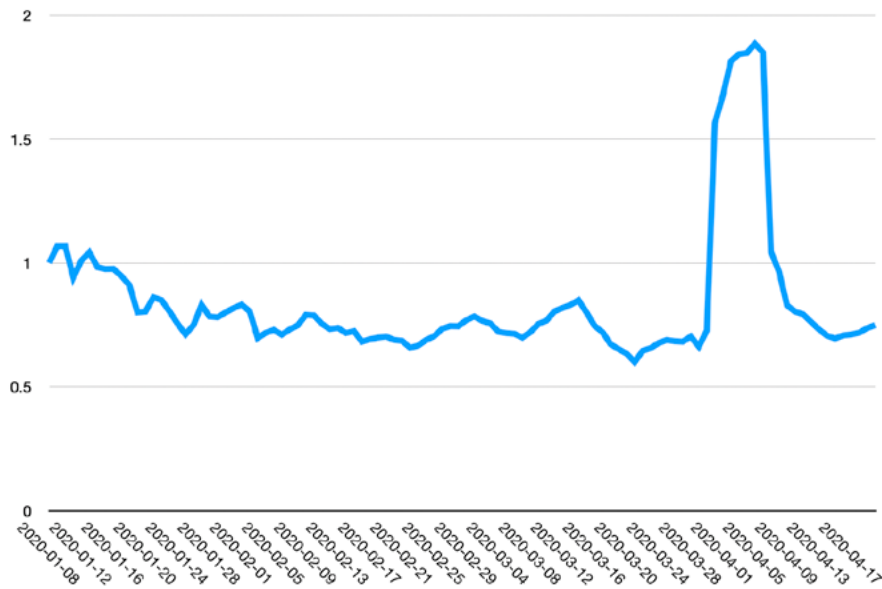
As large gatherings are discouraged or sporting events have been canceled we can see these sites are experiencing declines in traffic by around 50%.

Air travel sites have also been impacted as airlines have begun cutting schedules and the global population has largely been locked down.

When you compare the span of increases relative to decrease in traffic across certain types of sites - the increases far outweigh the decreases.

Increase in cyber attacks

Correlations can be made between school closures and increases in cyber attacks; potentially as a result of opportunistic hacking.



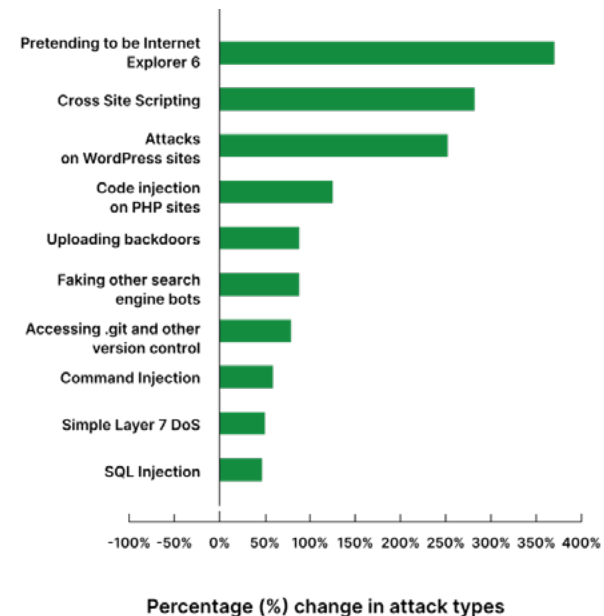
► Patterns we're seeing in terms of types of attacks

From the period of February 15 through March 28

WordPress sites. A 250% increase in attacks on WordPress sites

Cross Site Scripting. Almost a 300% increase in cross site scripting attacks.

Pretending to be Internet Explorer 6. This demonstrates the lack of sophistication in the types of attacks. Hackers are leveraging older open source tools that are out there (400%).



The emerging new normal

The core Internet was built for this, despite the increased traffic patterns that are emerging. Where challenges are emerging are around “last mile” networks in specific regions with smaller network providers in specific cities.

With an all virtual workforce, many businesses are challenged with being able to provide VPN access for the entire workforce. Zero trust solutions are emerging quickly, not only because of their security model based on user verification - but they’re able to augment many of the challenges businesses are facing ramping up their VPN infrastructure to accommodate the increased demand.

Businesses are well into the midst of sheltering in place, and many are proactively beginning to prepare business continuity plans for the return to a physical office once restrictions are lifted in specific regions around the world.

Resources

Cloudflare is a global cloud network that is uniquely positioned to provide valuable insights on Internet activity around the world based on traffic patterns from over 26 million Internet properties. Businesses trust Cloudflare to help ensure a superior online experience for their users, and enable a secure, agile remote workforce.

[Cloudflare Analytics](#) empowers you with deep insights and intelligence to protect and accelerate your Internet properties.

[Cloudflare for Teams](#) provides your remote employees with a secure path to the Internet and secure access to internal applications—without a VPN.

[Cloudflare Magic Transit](#) protects your on-prem networks against DDoS attacks.

[Cloudflare Argo Smart Routing](#) accelerates dynamic content delivery by 30%.

[Open for Business.org](#). Cloudflare for Teams is one of many products being made freely available for businesses during the pandemic through September 1st, 2020.

[Cloudflare for Government Agencies](#). Government agencies are eligible for a Cloudflare Business Plan subscription, and can also take advantage of the free Cloudflare for Teams licensing through September 1st, 2020.