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Lessons Learned from Telecom Operators During the Global Pandemic

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Since mid-March when the COVID-19 pandemic started, global internet traffic has increased by [about 30%](#). That translates to an entire year's worth of growth in internet traffic in a matter of weeks. I recently chaired a [microcast](#) with experts from ABI Research and Strategy Analytics to discuss how network operators in hard-hit areas like Italy and Spain are handling this massive uptick in data consumption and what operators are learning as the ripple effect spreads globally.

Unsurprisingly, during the lockdowns, mobile data consumption skyrocketed. Data from Italy and Spain reveal that sharp spikes are occurring at times, while the overall average use is trending sharply upward.

The first European country that went into lockdown, Italy, saw peak throughput up by around 90% when compared to the weeks prior to the nationwide closures.

Similarly, during the first week of lockdown in Spain, there was a 35% increase in throughput on mobile networks and a 50% increase over fixed networks. Interestingly, the increased data volume is being primarily driven by video. The television industry as a whole saw a [20% increase in streaming](#) compared to a month ago.

Encouragingly, we've seen telecom operators around the world step up in myriad ways to address the challenges that the global pandemic has had on both fixed and mobile networks.

Impacts of the traffic surge

It's important to note that neither fixed nor mobile networks were designed for this unprecedented traffic increase. Operators and content owners have a limited number of options for optimizing traffic and alleviating congestion. For instance, Netflix and Amazon are [readjusting their encoding rates](#) to help operators. While this help is welcomed, it is not a definitive solution.

Thus far, operators are seeing about a 20% increase in daytime traffic over the traditional evening peak based on data from our own company. As larger numbers of businesses become entirely operational online, however, this is likely to change. As such, operators need to balance the needs of revenue-generating business users with the entertainment needs of home-based consumers.

Operators also have to assuage regulators, whose focus is on consumers vs. enterprise users. So, for instance, companies like Akamai are [slowing](#) peak-hour video game downloads to minimize congestion during the pandemic. Sony and Microsoft are also [dynamically reducing gaming software downloads](#) to ease bottlenecks.

As people are forced to stay home, traffic to sites like Netflix will continue increasing and, thus, negatively impact enterprise services and videoconferencing. Operators need to be able to detect congestion on their networks and respond dynamically to how video quality impacts the network. Likewise, operators need the ability to evaluate congestion in real time in order to prioritize traffic and guarantee essential services.

One of our customers, an Indian tier-one operator used radio congestion indicators to quickly implement a mechanism to adjust the core network and meet the rising tide of traffic. By observing the congestion trends on different network locations, it took proactive steps to boost video traffic quality and meet the growing demand for data. In this way, the Indian operator ensured that first responders and essential services were not affected by the exponential demand for mobile data.

The impact on 5G

There is no question that the pandemic also is affecting 5G networks. While there have been some delays for 5G — such as 3GPP Rel 16/17 specs being delayed — there also have been a number of new 5G use cases created in response to the crisis.

In Wuhan, China, the country's [three major carriers](#) — China Mobile, China Unicom and China Telecom — [set up 5G base stations for health care workers in two hospitals](#). Additionally, the construction of the new hospitals were broadcast over 5G.

A helping hand

Likewise, it has been encouraging to see operators worldwide step up to assist their customers during the crisis, including:

- Initially, [Telefonica Spain increased mobile plans by 30 GB](#) per month for two months. When the lockdown continued, customers were given another 100 GB for an additional two months.
- [AT&T waived fees for data overages](#) and provided internet data to limited-income households for \$10 per month.
- Sprint and T-Mobile are [providing unlimited data on all mobile plans](#) and 20 GB of mobile hotspot service for three months.
- [South Africa's Vodacom invested \\$24 million](#) over two months to add network capacity to support people working from home.

Without question, these are unprecedented times for any business, let alone the telecoms industry. It's encouraging to see the ways in which the telecom industry is overcoming the hurdles created by the pandemic with solutions that help today and build a better future for tomorrow.

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