

# Digital Disruption, the Pandemic And What It Means to Carriers

The COVID-19 pandemic has driven carriers to provide the platform for essential services such as telehealth and e-commerce, but providers must increase capacity and advance automation to keep pace with demand.

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**A**mid unprecedented disruption and digital demands the COVID-19 pandemic placed on communication networks throughout 2020, telecom carriers have proven how resilient they can be. There were internet slowdowns, yet telcos increased network bandwidth as much and as quickly as possible to meet workloads forecast to occur sometime in the future.

Typically, with change comes a period of adjustment and then assessment before there's acceptance of a new reality. Keeping that process in mind, now is the time to evaluate and ask whether the changes that have occurred – the abrupt pivot to working and learning remotely and the reliance on telehealth, e-commerce and other models – will continue as the new normal.

## DISRUPTIONS THAT TRANSFORMED

For telecom carriers, here are some disruptions that have the potential to become valued innovations in people's lives:

**The hybrid workplace:** Many organizations were abruptly forced to send employees home and conduct as much business as possible remotely. Employees who once accessed business applications and workloads by connecting to the corporate data center suddenly had to work from home and access applications and workloads via the cloud – private, public and hybrid. The

network and the internet became the lifeline to business continuity.

## E-commerce, curbside pickup and Wi-Fi:

Consumers have become comfortable digital shoppers. Health concerns and restrictions may have been the impetus to a strong shift to e-commerce for products previously purchased at brick-and-mortar stores. At the same time, many consumers are also making a conscious effort to support local businesses and their neighbors during the pandemic.

Both factors point to a future consisting of a possible hybrid shopping model involving a combination of e-commerce and a local retailer focus. To stay relevant, businesses and traditional brick-and-mortar retailers must adjust their products, services and selling methods to accommodate contactless payments in stores and add e-commerce options. Many have added new capabilities, such as curbside pickup and home delivery. To accommodate all these changes, businesses must have sufficient and flexible bandwidth and reliable Wi-Fi that allows consumers to text when they've arrived to pick up purchases or meals.

**Virtual learning:** Making the virtual learning experience easier and better for students and their families has been a challenge. In some areas, remote learning isn't easy to access. Many families without internet have had to sit in a car

in a parking lot attempting to access Wi-Fi. Yet online learning platforms are proving to be a convenient knowledge resource for many. As comfort with online education grows, virtual workshops and online classes from institutions around the country, even around the world, are vital for the future of education. Along with greater bandwidth requirements, students e-learning and spending more time online adds an increased need to monitor network devices and protect children from specific web content.

**Rx: telehealth option:** Telehealth and telemedicine have been a necessary and lifesaving shift for many people during the pandemic and will likely continue as a permanent form of health care. No driving, parking fees or sitting in waiting rooms – simply log on or pick up the phone to reduce risk and stay proactive with ongoing health conditions. Patients, physicians and medical personnel have grown more comfortable with telehealth practices and remote monitoring devices. Fast and reliable internet access is crucial to the ongoing success of telehealth. In the future, the role technology plays in health care is projected to increase.

### HIGH-SPEED BROADBAND AVAILABILITY

Moving from disruption to innovation calls for high-speed bandwidth technology. High-speed broadband availability, connectivity, speed, reliability and the network technology that enables it is the bridge from disruption to innovation. Networks must evolve by increasing capacity and advancing automation. Key technologies such as software-defined wide-area networking (SD-WAN), cloud connectivity and 5G will support the digital transformation:

- **SD-WAN:** A traditional WAN designed to route traffic through a corporate data center will struggle to handle the volume of data, voice and video traffic occurring now, especially from more remote locations connecting to the cloud. Latency and poor performance can be drawbacks. SD-WAN technologies



enable industries such as health care to provide secure networking. SD-WAN can use multiple accesses such as internet, Ethernet, and wireless to the office or home to improve reliability by routing traffic in case there is a failure.

Another feature of SD-WAN is its monitoring capability to manage application performance. Now, end users can monitor their application performance and usage for popular applications such as Zoom. Typically, this technology was used by larger enterprises with main offices and branch locations to securely communicate. Now it is being introduced into home offices for easy and secure communications.

- **Cloud connectivity:** Users today also need to access the private or public cloud. This is where such applications as Office 365, Salesforce and others live. In the past, applications lived in private data centers operated by enterprise companies. With cloud connectivity, customers can access AWS, Azure and Google clouds. Remote users can get access to and from their home offices to the cloud more easily and securely.
- **5G's role:** 5G is another technology that enables remote users to access their applications from wherever they are. 5G adds significant bandwidth and speed. Depending on

the coverage area, users can get 10 times the bandwidth at significantly lower latency. Essentially, users can stream favorite movies or songs in the palm of the hand! As IoT devices and applications become a larger part of people's everyday lives and businesses, network operators must be prepared to build and deploy 5G networks to support their customers' growing connected lifestyles.

There's no doubt that the pandemic has accelerated and expanded digital transformation. Without warning or the typical time frames to prepare, carriers were called upon to immediately respond with the critical high-speed bandwidth needed to keep the world connected and productive in this unprecedented time of crisis.

People's lives have no doubt changed permanently because of the pandemic. Yet as they move through the chaos, people are finding that these life-changing technologies are enabling new and, in many cases, better and more secure ways of working, learning, providing health care and entertainment and more. People may find themselves embracing the new digital world! ❖

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