2020 Network Performance

THE SHIFT TO HOME AND THE IMPACT TO THE NETWORKS

April 5, 2021
Public confusion at the beginning of the pandemic:

COVID-19 Pushes Up Internet Use 70% And Streaming More Than 12%, First Figures Reveal

Why didn’t COVID-19 break the internet?
The short answer to why the internet has survived a huge surge in traffic during the global coronavirus pandemic is that the infrastructure that makes up its backbone was designed to survive just such an emergency.

The Virus Changed the Way We Internet

Stuck at home during the coronavirus pandemic, with many theaters closed and no restaurants to dine in, Americans have been spending more of their lives online.

But a New York Times analysis of internet usage in the United States from SimilarWeb and Apptopia, two online data providers, reveals that our behaviors shifted, sometimes starkly, as we spread and pushed us to our devices for work, play and connection.

We are looking to connect and entertain ourselves, but are turning away from our phones.

NCTA COVID-19 Dashboard

• NCTA members and other providers joined together to report key metrics during the pandemic for the NCTA COVID Dashboard

• Cable operators plan ahead to ensure that their networks have the capacity to withstand the significant spikes in usage

Our networks continued to operate normally
Cable Internet growth during COVID-19

- Significant increase in peak utilization
- No congestion due to having spare capacity

Source: https://www.ncta.com/COVIDdashboard
U.S. cable broadband networks thrived despite elevated demand

As of February 13, 2020:

☑ Overall average downstream peak growth is up about 29.8% since March 1, 2020, with a peak of 34.7%.

☑ Overall average upstream peak growth is up about 50.6% since March 1, 2020, with a peak of 53.0%.

☑ Overall downstream usage continues to far outpace upstream usage.

Network performance remains consistently robust
Network performance in Minnesota

As of March 31, 2021:

- 99.4% of the network has no issues
- 0.6% of the network is running close to capacity, but still no issues
- 0.0% of the network is at or near capacity
- 0.0% of the network is running at capacity

Networks operating normally, no congestion
Cable’s Commitment

- Advanced, highly redundant fiber optic core and a hybrid of fiber and coaxial cable (HFC)
- Provides tremendous flexibility, scalability, and reliability
- Technicians made field enhancements to ensure the network continue to perform
- Cable’s continued investment and development

*Cable constantly investing in our networks*
Internet traffic is asymmetrical

- Even with the significant growth in video conferencing, traffic still remains highly asymmetrical
- In percent growth video conferencing outpaced video streaming, but in sheer volume video streaming outgrew video conferencing 9x^2
- In 2020, video streaming was ~71% of downstream traffic\(^1\)
- In 2020, video streaming increased 70% over 2019 levels

**Videoconferencing less than 5% of overall network traffic**

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Growth with smaller cable operators

Smaller cable operators had similar traffic growth
Growth with mobile traffic

- Growth in mobile traffic lagged until shelter-in-place orders were lifted
- Fewer mobile handover
- More mobile traffic carried on Wi-Fi networks connected via cable
Shift in Customer Usage

Shift in Busy Hour on the Upstream

Upstream busy shifted from 9pm to 2pm

Consumer shift to using larger screens

• As consumers shifted to home for work/study they also shifted from Apps and small screens to websites and large screens
• Bigger screens use more data

Increase in video streaming

Largest growth in video streaming traffic occurred on weekdays

Increased usage of video conferencing – but still small compared to overall traffic usage

% Increase in Video Conferencing Traffic (a US ISP)

Streaming video still much larger usage than video conferencing

Internet performance during first week of pandemic

- Only 1% decline in measured download speed between March 12 and March 24

Speeds still remained above advertised speeds

What we’ve learned over the past year…

• Significant growth occurred on the network due to the pandemic
• Due to cable’s continued investment, and continued network enhancements during COVID, the networks have continued to operate normally
• Even during the pandemic, network traffic has been asymmetrical
• Videoconferencing less than 5% of overall network traffic