

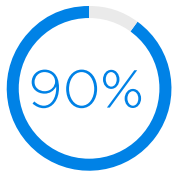
High-capacity bandwidth boosts the performance of cloud applications



Organizations have captured new efficiencies, resources and innovations by investing in the cloud. Data is shifting away from native applications and on-site data centers to platforms that are often easier to manage. But doing so creates additional IT challenges as teams rely more heavily on access to cloud resources over their internet and Ethernet connections. Your network must adapt quickly to meet the demands of an evolving cloud strategy. That requires connectivity solutions that can scale to provide high-capacity bandwidth.

As part of Charter Communications, a Fortune 100 company, Spectrum Enterprise continues to invest in its network and expand its reach to offer high-capacity capabilities that help organizations capitalize on the rapid innovation of public and private clouds. From 2016 – 2020 alone, Charter Communications invested nearly \$40 billion in infrastructure and technology. We provide dedicated internet access and Ethernet up to 100 Gbps to power high-volume applications. Our collaborative approach to network modernization brings additional resources and expertise for IT teams to make the most of limited time and budgets.

In this executive brief, we explore ways the high-capacity bandwidth of our Fiber Internet Access and Ethernet Services delivers on the promise of a modern network by enhancing the performance of resources in the cloud.



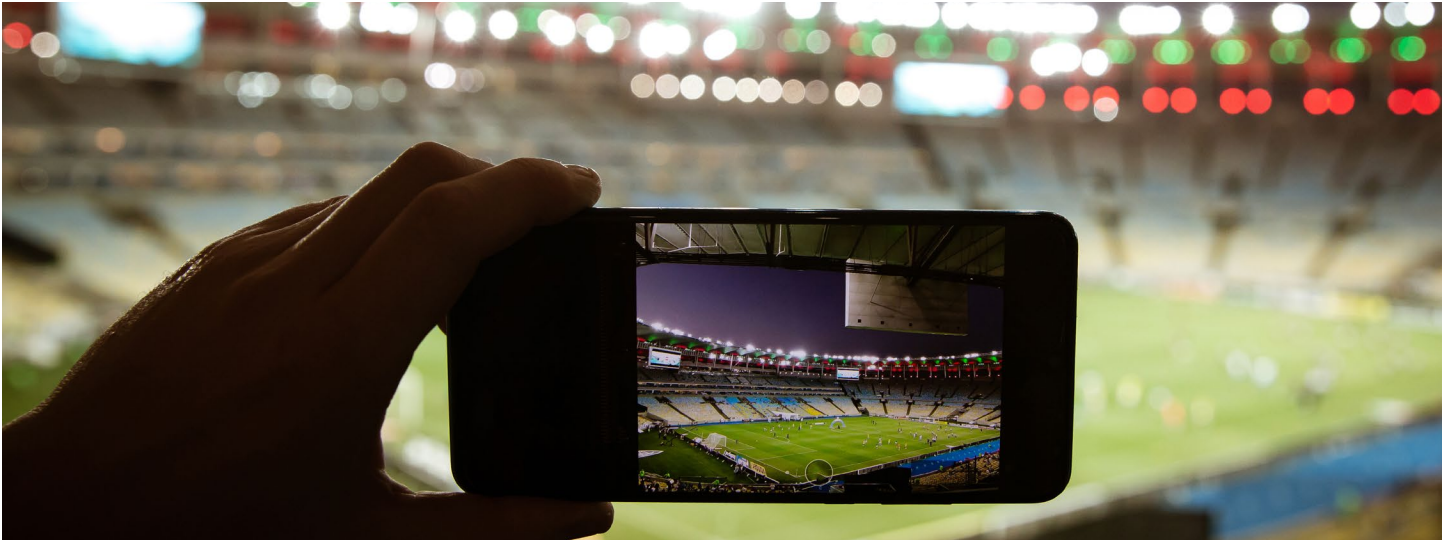
of enterprises expect cloud usage to exceed prior plans due to COVID-19.²

Realize the full potential of cloud applications

Access to public and private cloud platforms is more essential for large organizations than ever before, and the pandemic has expedited that trend. An estimated 90 percent of enterprises expect cloud usage to exceed prior plans due to COVID-19.¹ As a result, this has also increased demand for internet and Ethernet capacity.

Organizations relying heavily on real-time streaming video conferences, for example, need to resolve connectivity issues related to network performance — such as latency — to ensure smooth business operations. IT managers must also contend with more internet-bound traffic connecting to cloud applications, as well as private connections to cloud service providers that compete for resources on a network.

High-capacity connections to private data centers and major interconnection hubs in the public cloud can boost the performance of a multi-cloud environment and create cost efficiencies by consolidating multiple fiber connections. Ethernet provides a superior, private connectivity solution to strengthen security while connecting headquarters to the data centers that host cloud services or manage traffic at enterprise scale.



Use case: Next-generation experiences

Today's smart stadiums entice fans with media-rich, interactive experiences that have placed new demands on networks and leave little tolerance for lag time. Sports franchises must build networks capable of streaming game coverage through complex multi-cloud environments and managing WiFi for fans viewing replays and highlights on site. Data-heavy traffic to and from thousands of mobile devices can strain overall network capacity and risk frustrating disruptions for people viewing the game.

Live video is just one of many data streams that stadiums are expected to deliver with very low latency. Internet of Things (IoT) sensors collect information for security, concession payments and other applications that keep the stadium running smoothly. On the field, sensors in helmets can monitor the impact of collisions and tackles.³ At the same time, fans access advanced analytics processed in the cloud, like where a quarterback throws the ball most often and which lanes running backs are frequenting.⁴ Mobile apps and virtual reality devices can even enable fans to watch from every conceivable angle for an immersive, in-person game experience.⁵ IT managers must create networks that can upload all of this data to the cloud in real time while keeping fans in the stadium connected to the same media enjoyed by viewers at home.

Solution: Aggregating internet traffic with high-capacity connectivity services helps venues support large events and maintain high network performance when users consume bandwidth-intensive media on WiFi connections. Options for bandwidth up to 100 Gbps also give IT teams flexible, scalable solutions for network designs that can deliver experiences to legions of fans off-site through high-performance connections to cloud services providers.

Spectrum Enterprise offers scalable bandwidth for internet and Ethernet solutions with speeds up to 100 Gbps for your most data-intensive applications.

Ensure your cloud strategy supports business continuity

With more mission-critical applications and processes in the cloud, access to backup data during a network disruption has become even more essential. Fast restoration of business applications from backups stored in data centers is crucial, and it's dependent on having access to the right connectivity solutions.

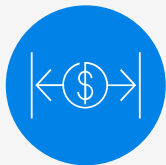
Spectrum Enterprise can deliver the bandwidth required to support business continuity and rapidly restore operations in the event of an outage. As a collaborative partner with a diverse portfolio of connectivity and networking capabilities, we can also integrate our Wireless Internet Backup solution, fault-tolerant managed network services and dual entrance facility designs into a network architecture that achieves your unique goals for a resilient network.

Choose a partner that can scale with your applications

The fast pace of change and growth can strain networks, impacting connection speeds and performance. As your use of cloud resources evolves, so does your need for high-performing, low-latency connectivity. Spectrum Enterprise offers scalable bandwidth for internet and Ethernet solutions with speeds up to 100 Gbps for your most data-intensive applications. Now it's easier than ever to adopt solutions with the right bandwidth to support your network.

- **Fiber Internet Access:** Ensure a dedicated, high-performance internet connection with a partner you can trust. Experience the consistent performance you need to keep critical cloud applications up and running and your business operating. Fiber Internet Access provides nationwide, dedicated internet connectivity with symmetrical upload and download speeds, delivered securely over our private fiber network.
- **Ethernet Services:** Meet ever-growing data needs by connecting your locations and cloud resources with a fast, secure, reliable, private wide area network (WAN) solution backed by performance guarantees and delivered over a dedicated fiber infrastructure. An online portal empowers IT staff with network visibility, providing near real-time status updates and reporting capabilities. It also includes our high-touch, end-to-end service delivered with superior network design.

Additional advantages of high-capacity bandwidth:



Reduce costs and complexity by consolidating internet connections and traffic.



Maintain performance as more employees access network resources and the internet through VPNs.



Count on rapid restoration of data from private data centers and the public cloud after a disruption.



Expand your capabilities with a national partner investing in a dense private fiber network.

Why companies choose Spectrum Enterprise

- 1,200+ MEF certified professionals.
- MEF award-winning network service provider.
- One of the top U.S. Ethernet providers, according to the Mid-2021 U.S. Carrier Ethernet Services LEADERBOARD.⁶
- Nationwide network reach with 255K+ fiber-lit buildings and 230K+ fiber-route miles.
- 99.99 percent service availability supported by an end-to-end service-level agreement (SLA) that extends into the client suite.
- 24/7/365 proactive monitoring with U.S.-based support.
- Local technicians.
- A four-hour mean time to restore (MTTR) — not just to respond.

Conclusion

Spectrum Enterprise continues to invest in our technology and nationwide fiber network to enable capabilities like high-capacity connectivity so your organization is prepared to meet the networking challenges that come with today's increased data transmission and reliance on the cloud. As your trusted partner, we will collaborate with your team to deliver the right bandwidth solution for each of your locations to ensure reliable performance for cloud applications, low latency and high uptime across your entire network.

Partnering with Spectrum Enterprise enables your organization to innovate and continue your network modernization journey. We offer high-capacity Fiber Internet Access and Ethernet Services up to 100 Gbps, with the flexibility to adopt different speeds across locations to meet varying needs, making it easy to support seamless access to cloud service providers.

Our diverse portfolio of connectivity solutions makes it easier, quicker and more cost-effective to access bandwidth capacity few other providers can match. Our internet and networking services are backed by an industry-leading SLA that offers 99.99 percent service availability with a four-hour mean time to restore — not just to respond — for reliable connectivity into the client suite. You can count on high performance and low latency for your users, allowing you to rest easy knowing your solutions include 24/7/365 U.S.-based support and local technicians.

Work with a network service provider that has the knowledge, experience and technology to meet the changing needs of your organization. Learn more at enterprise.spectrum.com/HighCapacity.

1. Tanner Luxner, "[Cloud Computing Trends: 2021 State of the Cloud Report](#)," Flexera, March 15, 2021.

2. Ibid.

3. Spencer Chin, "[Football Helmet Sensors Monitor Impact of Collisions, Tackles](#)," Fierce Electronics, Aug. 21, 2019.

4. Andrew Cohen, "[NFL Fans Can Follow Live Player-Tracking Data in Three Games on Saturday](#)," SportTechie, Dec. 20, 2019.

5. Vivienne Kyne, "[How VR is Changing the Sports Fan Experience](#)," SportLoMo, July 9, 2019.

6. "[Mid-2021 U.S. Carrier Ethernet LEADERBOARD](#)," Vertical Systems Group, Sept. 2, 2021.

About Spectrum Enterprise

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving many of America's largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes [networking and managed services solutions](#): [Internet access](#), [Ethernet access and networks](#), [Voice](#) and [TV solutions](#). The Spectrum Enterprise team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. For more information, visit enterprise.spectrum.com.