

Social media provider simplifies infrastructure to address growth

According to market research company GWI, the average social media user spends 2 hours and 29 minutes on their preferred platforms every day—and the number of social media users is growing at 10x the rate of the world's population.¹

| JULY 2022 OVERVIEW OF SOCIAL MEDIA USE | | | | |
|---|---|--|--|---|
| Number of social media users | Quarter-on-quarter change in social media users | Year-on-year change in social media users | Average daily time spent on using social media | Average number of social platforms used each month |
| 4.70 Bn | +1.0% +47 Million | +5.1% +227 Million | 2H 29M YOY: +3.5% (+5 Min) | 7.4 |
| Social media users vs. total population | Social media users vs population age 13+ | Social media users vs total internet users | Female social media users vs. total social media users | Male social media users vs total social media users |
| 59.0% | 75.5% | 93.6% | 45.7% | 54.3% |

Source: DataReportal

Unsurprisingly, social media platforms are under increasing pressure to continually upgrade their networks to handle exponential traffic and storage demands, while lowering latency and increasing density. At the same time, the market is becoming more competitive as larger players launch niche services and new platforms enter the ever-growing space. As a result, network teams are continuously challenged to evolve their capabilities without significantly increasing costs.

This was the challenge recently faced by a leading global social media platform, which turned to CommScope to help develop a blueprint for a more adaptable, simplified and efficient infrastructure.

Positioning the network for future growth

Based in the U.S., the customer has created a global following of users who interact with the platform more than 400 billion times a day. With the platform's growth showing little sign of slowing, the customer looked to boost network efficiency and placed a priority on supporting three to four generations of future server/compute upgrade cycles with the most sustainable infrastructure architecture.

Specifically, the customer needed a faster, more streamlined network that would be easier to manage, adapt, and scale, and would enable the constant migration to higher speeds. Additionally, they needed

to create greater cabinet density and overall capacity to better monetize their white space—all while keeping power requirements and uptime at their current levels. And in keeping with the company's aggressive sustainability objectives, the environmental impact of the infrastructure architecture and design to support the network upgrade cycles had to be minimal.

Prior to embarking on the project, the company had been able to support its global users from a single data center complex. As the volume of data traffic multiplied, though, it became necessary to expand their footprint. Partnering with CommScope, they soon were able to triple their total network capacity. They invited

CommScope to help re-design a new network architecture to carry the platform into the future.

“We knew CommScope could handle the basic blocking and tackling of fiber and connectivity. For this project, we were interested in their thoughts regarding future architectures and topologies and how that translated into some of our business drivers like operational efficiency, sustainability, white space utilization, power optimization and network capacity,” said the head of the company’s infrastructure design and operations team.

“One of the key challenges was developing a scalable infrastructure architecture blueprint for managing the customer’s future growth. That meant streamlining the network to make it more efficient and nimble, creating an easy migration path to faster speeds and making better use of the available real estate,” said Kam Patel, vice president, CommScope Global Data Center Solutions.

Rethinking the legacy infrastructure

For the project, the customer selected one of its several data center facilities to serve as a proof of concept. In July 2019, CommScope’s dedicated customer project team began assessing the existing network architecture and capabilities.

The existing data center complex consists of two campuses with up to 16 interconnected data halls. Early in the project, the customer’s compute servers were still leveraging 1 GbE and 10 GbE connections; but, with demand for more server capacity

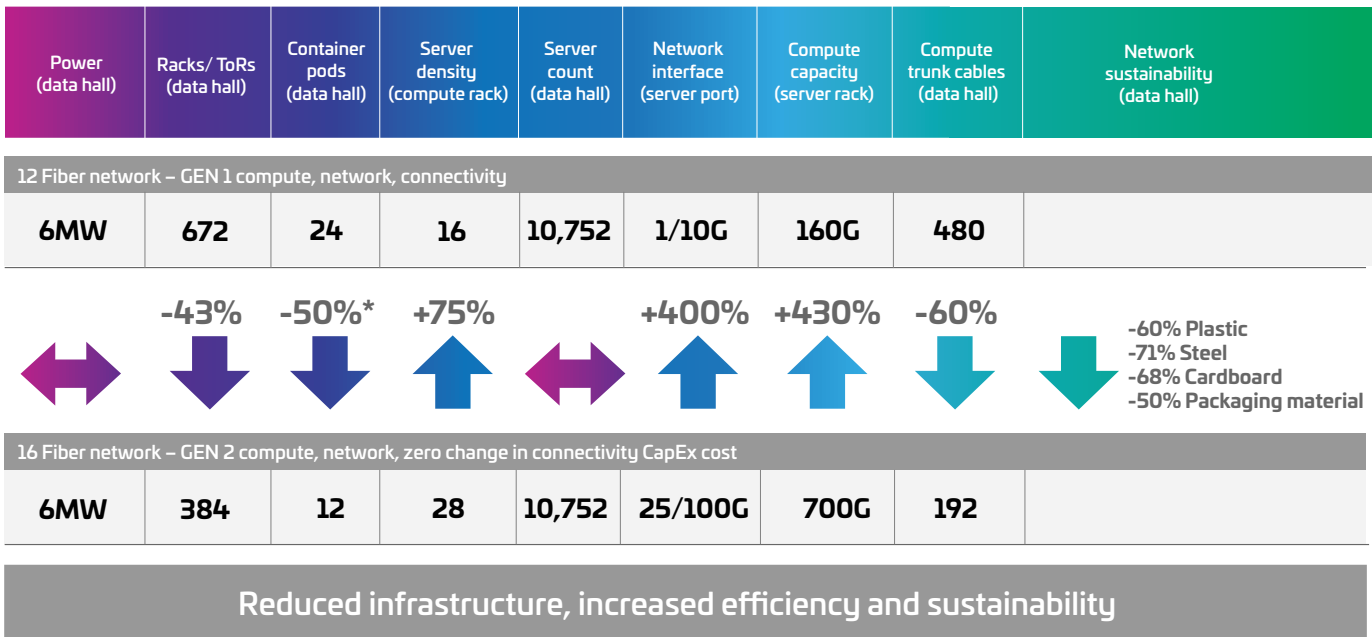
quickly increasing, the bandwidth needed to increase. So, midway through the design phase, the customer asked CommScope’s team to re-architect the design to include 25 GbE and 100 GbE server connections.

“We were looking to increase compute resource densification by about 75 percent across each data hall—requiring increasing upstream capacity by more than 400 percent. That kind of exponential increase required a forward-thinking approach and design. They delivered on this beyond our expectations,” the customer’s project team lead said.

A leaner, more agile and efficient design

“By focusing on a network-native connectivity design, supporting their increased compute density and fabric capacity needs, we were able to address their key concerns and provide an agile path forward for their business,” explained Matt Baldassano, SE manager, CommScope Cloud Scale Accounts. As shown in Figure 1, cabinet density increased 75 percent—from 16 servers to 28. In addition, some compute cabinets, now equipped with 100 GbE ports, increased network capacity 400 percent. The densification of their server racks and compute pods necessitated a more dense fiber cable and connector—reducing the total number of fiber trunk cables by 60 percent and the raw material content by 71 percent (396 kg, or 873 lbs), and increasing available white space by 43 percent.

These results translated into substantial improvements for the customer’s key business objective: the ability to rapidly turn up



*Larger Pod size

Figure 1: Compute and network capacity upgrade

and support current and future computing technologies with a greater and sustainably efficient next-generation physical layer fiber architecture. The higher-density cabinets increased the square-foot productivity and reduced the white space demand. Secondly, the pod densification enabled the customer to maximize cooling efficiency by concentrating containment cooling to compute racks within the pods. This further added to their sustainability targets.

Thanks in part to the new 100 GbE server connections, the 400 percent increase in network transceiver speeds is supported by the same power capacity—adding to the customer's overall sustainability targets. Compared to the legacy design, the new next-generation fiber architecture also provided significant savings in the installation and commissioning components. The new connectivity design reduced CapEx investment of the new fiber architecture while increasing the installation efficiency compared to legacy architectures.

Perhaps one of the most important benefits is how the redesign sets up the customer for the near- and long-term future. The design takes advantage of 16-fiber configurations capable with [Propel™, CommScope's modular, fiber connectivity platform](#). As a result, the customer can now easily migrate from 1 GbE to 10, 25, 50, 100 and 200 GbE server compute infrastructures, without adding new fiber cabling and connectivity in the future. By extending the lifecycle of their infrastructure, the customer can defer the purchase of additional cabling and ultimately reduce their environmental impact.

Ready for what's next

With the proof of concept having been demonstrated in a full-scale data center environment, the customer has standardized on the next-generation physical layer architecture and will expand to other global data center locations. In the meantime, the new CommScope-developed solution has proven a solid return on the investment in terms of rack density, power efficiency, sustainability and migration to higher speeds in the future. As social media usage trends continue upward, these benefits bode well for future growth.

¹ Digital Around the World; DataReportal.com, global data overview; Oct 2022.

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