



WHAT'S DRIVING THE MULTIGIG BANDWIDTH DEMAND?

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As SMBs and enterprises increase their reliance on cloud applications, the demand for Multi-gigabit Ethernet (Multigig) is growing. Multigig is a PON (Passive Optical Network) technology, shared, best-effort service. It delivers a faster network and increased bandwidth, providing better access to data.



There are many reasons behind this push for Multigig bandwidth, such as staying on top of cutting-edge technologies. But is it necessary?



Learn what's driving demand for Multigig bandwidth and the use cases that support a solid return on investment (ROI).



Then explore how common enterprise use cases may benefit from a different approach involving rightsizing your data communications.

WHAT IS MULTI-GIGABIT ETHERNET?

Multi-gigabit Ethernet refers to using existing CAT5e wiring to achieve speeds of more than 1G. It came about in 2016 as the IEEE 802.3bz standard. Multigig shares the same cabling as Gigabit but can deliver 2.5Gbps or 5Gbps.



Additionally, Multigig can also provide 10Gbps speeds through CAT5e wiring, although at a shorter distance.



Multi-gigabit ethernet allows your network to provide speeds needed by IoT devices and access points. It also supports Power over Ethernet (PoE) standards, which help power your security cameras and access points.



However, Multigig is also a PON technology, which, while applicable, shouldn't be a substitute for a DIA (Dedicated Internet Access) circuit unless the enterprise is replacing a DIA circuit with multiple commodity circuits from separate providers.



PRIMARY DRIVERS OF MULTIGIG BANDWIDTH DEMAND

According to the IDC, "Varying factors continue to drive the Ethernet switch market, including the adoption of 400 GbE in the data center segment and continued growth of multi-gigabit Ethernet switches in the campus and branch segment of the market." Highly connected workforces and workplaces consume bandwidth, and companies want to be poised to meet upcoming demands.

Mobile apps, gaming, and social media usage by employees and customers can strain existing networks. Likewise, enterprise applications require consistent high speeds.

Other factors affecting today's enterprise traffic and data consumption needs include:

Cloud adoption through the use of SaaS platforms, such as Salesforce and Microsoft 365



PaaS and IaaS for cloud services, like AWS, Azure, and IaaS from CBCS

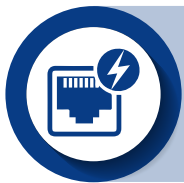
Asset management for IoT environments, including Cox Prosight and Cox2M



Edge computing through services like Cox Edge

DO YOU NEED MULTIGIG BANDWIDTH?

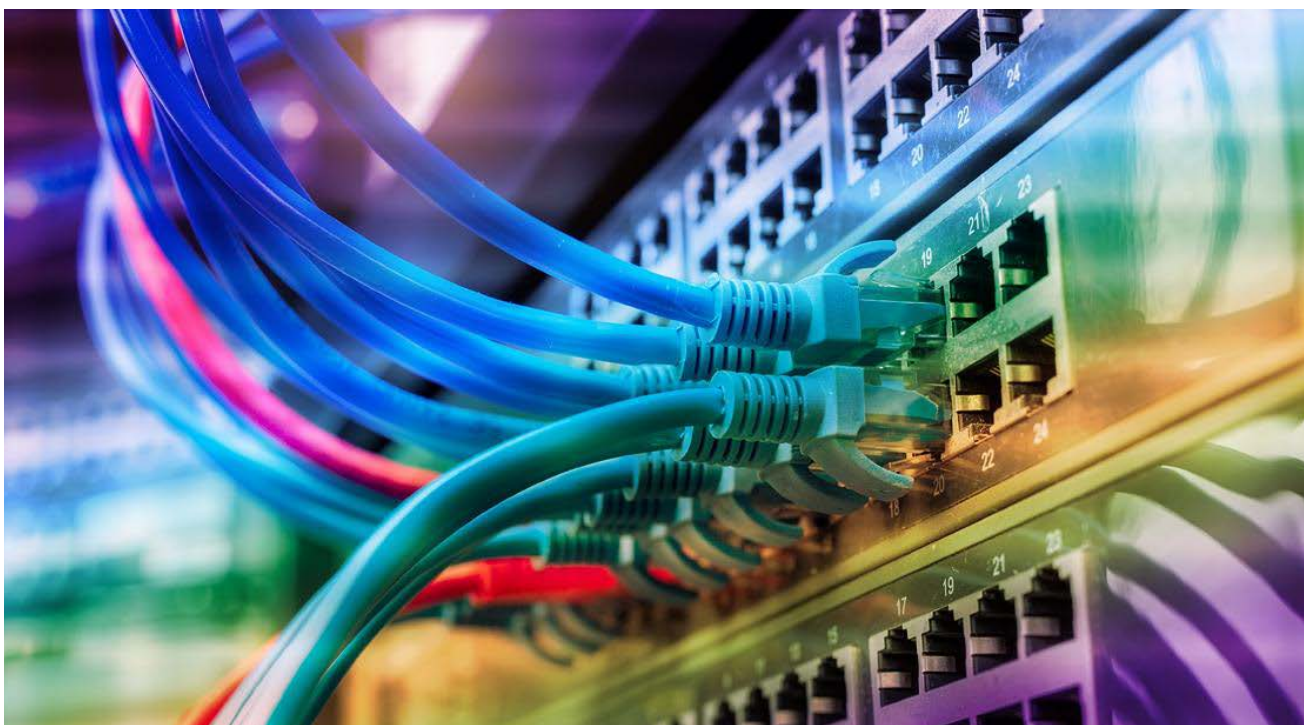
Multi-gigabit Ethernet is a popular solution because it utilizes existing cabling, allowing companies to manage an increasing number of IoT devices and virtual reality (VR) applications. Many organizations think Multigig bandwidth is necessary to future-proof their infrastructure. However, you can build a flexible network strategy without relying on Multigig Ethernet.



According to Jim Smith, Senior Product Marketing Manager at Cox Business, "If you're needing multiple gigs and you're not a provider, you're doing something wrong."



SMBs can work with a trusted technology partner to optimize their bandwidth and get the speeds they need. Additionally, enterprises may benefit from DIA, which provides symmetrical upload and download speeds.





BENEFITS OF RIGHTSIZING YOUR DATA COMMUNICATIONS

Minimizing your costs while optimizing the benefits can result in better outcomes across your networks. Rightsizing your data communications involves several factors, including optimal configuration and data consumption settings. However, it's not a one-time issue. Instead, your business must continually assess your needs and adjust bandwidth accordingly.

The three most significant benefits of rightsizing are:



COST SAVINGS:

Direct and indirect expenses impact your bottom line. Buying what you need now and having the flexibility to scale up or down helps save money without preventing your organization from pursuing future objectives.



RESOURCE OPTIMIZATION:

In some cases, reconfiguring settings & choosing the appropriate modes can improve application and network performance. By optimizing existing resources, you can get more out of your budget.



NETWORK EFFICIENCY:

An efficient network prioritizes applications based on the class of service and reduces network bottlenecks. Plus, you can schedule large workloads for off-hours.

HOW ENTERPRISES MAKE EFFICIENT USE OF NETWORK RESOURCES

Improving your current network resources is often more practical and less expensive than adding multi-gig bandwidth. Working with a managed service provider can help you identify potential areas for improvement. Taking action can achieve optimal performance on your network without upgrading. Furthermore, technology partners can monitor network performance continually and provide health check-ups with valuable insights for your IT team.

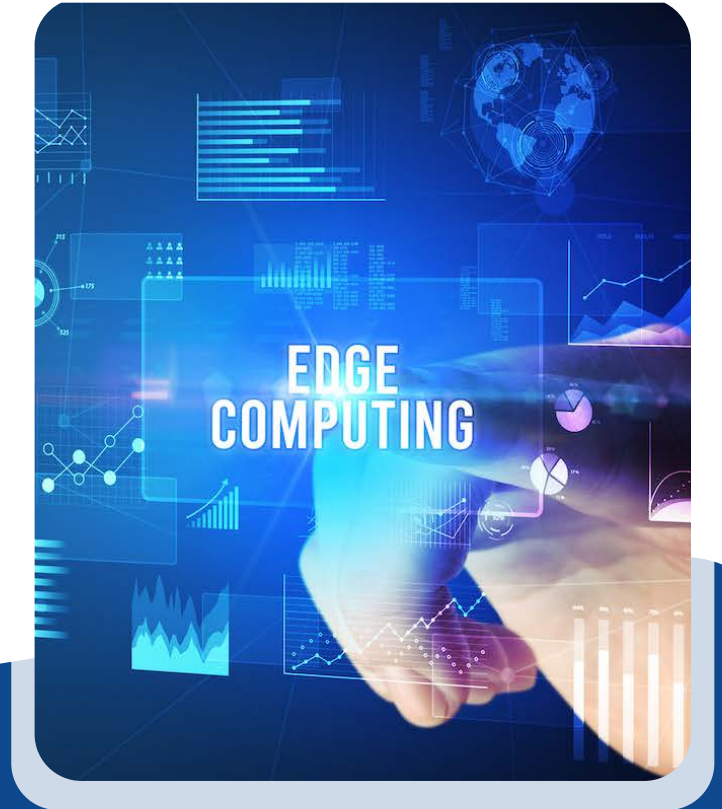
LEVERAGE SD-WAN

- Organizations with multiple locations benefit from SD-WAN. It provides better redundancy and more flexibility to deploy new services remotely. SD-WAN overlays your current WAN, offering centralized control and configuration capability for multiple branches and remote offices.
- It can be configured for many connections, from MPLS to fiber ethernet and more. The transport flexibility lets you connect branches without carrier or location restrictions.
- SD-WAN can improve your bandwidth issues because it provides programmable network behavior, allowing you to control bandwidth and prioritize traffic. This combination of factors increases network performance while reducing overhead costs.

CONSIDER EDGE COMPUTING

Edge computing delivers faster response times, improves security, and decreases energy consumption. It places resources close to end-users and devices, meaning key processing functions have less latency. Putting high-performance storage, computing, and network resources relative to the end-user reduces the total amount of network data.

Consequently, it can result in performance improvements across your organization. Since data isn't traveling to data centers, you can reduce security risks and send data to multiple user devices without processing it through a centralized server.



EXPECT STRONG SERVICE LEVEL AGREEMENTS (SLAS)

- Robust SLAs ensure fast speeds and high uptime. In addition, an SLA details how your Internet Service Provider (ISP) or Managed Service Provider (MSP) will support your organization from installation and beyond.
- Providers monitor network performance and service level metrics, such as network round-trip time (RTT), jitter, and download and upload speeds.
- You can spend less time worrying about your connections by working with vendors who define time-to-repair, reporting, and denial-of-service standards.

PARTNER WITH INDUSTRY LEADERS

Ensure your bandwidth meets demand by partnering with forward-thinking providers who continually upgrade and update their infrastructure. Currently, Cox has an Active-E network, supplying its Fiber Metro-e/DIA products and backhauling the HFC distribution network. Smith says, "Multi-Gig Active-E CFI is available virtually anywhere in our footprint."

However, Cox will make a multibillion-dollar annual infrastructure investment over the next several years to improve and expand its fiber-based network that will power the next generation of internet users.

According to Smith, "The "new" Cox investment is about upgrading or adding additional speed options to the distribution network, or last-mile network. We are building out PON in some areas and upgrading the existing HFC network in other areas (with mid-splits and high-splits to support the next generation of DOCSIS/HFC)."

If you're considering Multigig Ethernet, speak with a Cox Business representative first. We can help you determine the most practical route for your organization and budget.

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