BROCHURE

Choosing the right Ethernet solution.

How to make the best choice for your business.

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Summary

Growing businesses are searching for higher bandwidth and capacity to better support and serve employees, partners and especially customers. Ethernet has proven to be a great solution for organizations that want administrative control and security over their network traffic — without requiring a lot of specialized knowledge or onsite IT staff. With Ethernet, you authorize and manage anyone connected to your network at any time, from any connection. Because Ethernet is based on LAN technology and utilizes wired ports, it's an excellent solution for preventing unauthorized usage and malicious security breaches. IT decision makers are turning to Ethernet as a cost-effective solution for easily managing voice, data files, storage and more — with bandwidth that is simple to scale.

In this guide, we explain why Ethernet may be a good fit for your company. We also look at why choosing the right vendor with the right solutions for your business will help ensure your organization's success.

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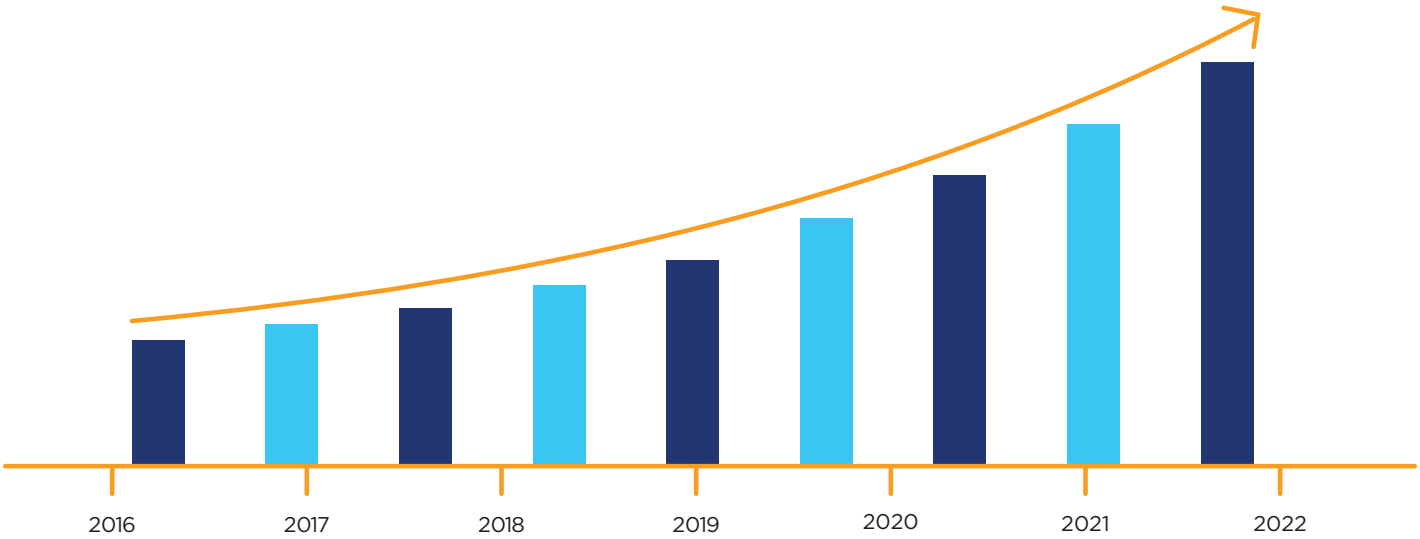

Rise of the Industrial Ethernet Market

Increasing adoption of cloud-based platforms, an exponential increase in internet usage, and growth of highspeed networking technologies is expected to fuel the industrial Ethernet market (between 2016 and 2022).1

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Why do organizations choose Ethernet?

For businesses with multiple sites, (any number from 2 to 100+), Ethernet is an excellent solution. This is especially true if customers are using content-rich applications like video conferencing or financial transactions where latency can be a problematic issue. Ethernet utilizes an easy-to-scale infrastructure with network management that is familiar to IT staff, reducing complexity and maintenance time. With Ethernet, organizations can be both more secure and more agile.

As the amount of data transferred across networks increases, Ethernet has become the de facto standard for the secure and reliable sharing of data between local, metro and national locations as well as cloud-based applications.

Ethernet provides a secure, reliable, high-performance backbone that enables you to manage data growth and application performance, while enhancing the security of every connected location.

For businesses looking for scalable bandwidth to support new and increasingly robust applications, Ethernet is a solid choice. It's flexible, so you can alter the topology and make changes as needed. And because Ethernet is Layer 2, and not directly connected to the internet, it does not have the inherent security vulnerabilities of and internet-based network.

Companies using Ethernet realize several benefits and improved business outcomes including:

- **Greater Productivity**
  Enable virtual workgroups to reliably communicate across geographic locations with low-latency connections.

- **Cost Savings**
  Replace higher-cost, static private line bandwidth with the granular scalability and simplified upgrade path of Ethernet.

- **Increased Efficiency**
  Support delay-sensitive business applications with multi-level class of service (CoS) prioritization.

- **Ease of Adoption**
  Provide IT staff with familiar technology that is simply an extension of your current office local area network.

- **Security and Control**
  Secure data traffic by utilizing dedicated, private connections and controlling your routing.

What type of Ethernet solutions will help my organization?

Ethernet solutions can be designed and implemented to meet the specific business and communications needs of your organization.

Let's take a closer look at some different Ethernet options.

Metro Ethernet

This type of service combines the power of Ethernet and optical technologies across metropolitan area networks (MANs) to provide low-cost, LAN-to-LAN connectivity for transmitting data between two or more company locations within a single metropolitan area.

With Metropolitan Area Ethernet, companies benefit from:

***Paying only for the bandwidth they need, when they need it**

- Being able to assemble virtual workgroups with suppliers and vendors
- Using lower-cost Ethernet switches and routers to replace more expensive specialized WAN equipment
- Sharing connected devices with all your on-net locations including printers, servers, voice and cloud-based applications

Ethernet private line

With Ethernet Private Line, companies benefit from:

- Reliable, fully-committed bandwidth
- Increased flexibility across geographic locations

Support for a variety of ROI requirements

Ethernet Virtual Private Line (or E-line)

Ethernet Private Line (EPL) service connects customer sites within and between markets across the globe via a private line. Dedicated bandwidth can be granularly scaled from 5 to 1,000Mbps. Ethernet Private Line service is excellent for transporting business-critical data between two customer sites by using a point-to-point configuration as well as Ethernet Virtual Private Line to connect multiple customer sites and to data centers configurations.

Ethernet Virtual Private Line provides the additional benefit of:

- Point-to-multi-point connectivity
- Multi-service transport over a single Ethernet Virtual Circuit (EVC) supporting voice, video and data prioritization using class of service

What should I look for in an Ethernet provider?

It's important to do your research and choose an Ethernet provider that offers the services and features that will be most beneficial to your business.

Other vital criteria to consider when selecting an Ethernet provider include:

Reliability

- Dedicated support of voice, video and internet traffic
- Availability should be 99% or above with service level agreements (SLAs)

Secure network

- Network monitoring and management
- Insight into circuit performance
- Tamper-resistant fiber optic circuits, and network security audits

Availability

- Broad access to multiple domestic metropolitan markets
- Aggregate multiple traffic types on a single connection

Technology

- Four-fiber, bidirectional line-switched ring technology
- Multiplexing available

Reputation

- Customers consider them not just a provider, but a business partner
- They can readily provide references and relevant case studies
- They've proven their ability to meet deadlines and budgets
- They're a single, trusted partner for the entire solution (not just parts of it)

Your business is only as strong as its connections

Lumen Ethernet Services give you the high-performance connectivity you need today — and the flexibility to cost-effectively adapt to new networking requirements. Your business benefits from maintaining a secure, private connection to all your business locations and cloud-based applications. Customized for your business, our Ethernet solutions keep your content flowing everywhere it needs to go — all from a trusted partner who can handle all your voice, data, cloud apps, storage and more.

Counted on by organizations across the globe, Lumen Ethernet Services provide the business benefits companies demand, including:

Scalability
The ability to scale bandwidth up to 3X the committed rate as needed

Standard Connectivity
The natural extension of LAN Ethernet that gives you fast, easy and automated management of network connections

Privacy and Security
Private network connections for customers requiring secure voice, data, backup and other network services

Application Performance
High-performance voice and data applications supported, with visible class of service performance, network reliability and advanced security

Wide-Area Coverage Options
Regional, national, and international connectivity gives you great coverage options

Network Monitoring
Lumen network monitoring and network management expertise minimizes downtime, increases application performance and meets the latest networking requirements

Scale Bandwidth On-Demand
Scale dynamically by flexing bandwidth up to 3x to accommodate peak traffic demands, while provisioning connections between data centers and cloud providers in real-time

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Lumen℠ Ethernet offerings

Lumen℠ E-LAN®

Lumen E-LAN is a multipoint-to-multipoint Ethernet service type that can be used to connect multiple user network interfaces between any Ethernet enabled markets in North America, EMEA and Asia Pacific. The service is also well suited to voice and video applications.

Lumen℠ E-LAN provides:

- Bandwidth options from 2 Mbps to 6 Gbps
- Four classes of service to prioritize traffic
- Custom solutions designed by Lumen engineers
  - Scale your bandwidth by up to 3X on-demand, scheduled to accommodate traffic fluctuations from planned and unplanned events as well as monitor these shifts in network performance with Enhanced Management
  - Multipoint-to-multipoint service configurations
  - MEF CE2.0 Certified
  - Secure, reliable connectivity backed by service level agreements

Lumen E-LINE

Lumen E-Line is a simple, powerful Ethernet private line service designed to increase operational efficiency and improve your return on investment.

Offering point-to-point and point-to-multipoint, private connectivity with scalable, dynamic bandwidth, Lumen E-Line is ideal for providing high-speed connections among corporate headquarters, data centers and other business locations around the world.

Lumen E-LINE provides:

- Dedicated bandwidth for high performance
- Choice of bandwidth from 2 Mbps to 100 Gbps
- Visibility into network performance statistics on an end-to-end, site-by-site basis with Enhanced Management
  - Scale bandwidth by up to 3X on demand, scheduled to accommodate traffic fluctuations from planned and unplanned events with Lumen℠ Dynamic Capacity
  - Enable real-time provisioning of connections between data centers and cloud providers with Lumen℠ Dynamic Connections
  - MEF CE2.0 Certified

Conclusion

Your business can't afford to wait any longer to update its communications. Every day you delay can be costing your organization money, time and lost opportunities for growth. Now is the time to increased efficiency and employee productivity simply by updating your business network with a cloud-based, on-premises or fully managed solution from Lumen.

Discover the full value of Lumen Ethernet Services.
Learn more at Lumen.com

Footnotes

1. "Global Industrial Ethernet Market will reach USD 58.98 Billion by 2022," Zion Market Research, February 16, 2017. https://globenewswire.com/news-release/2017/02/16/918064/0/en/Global-Industrial-Ethernet-Market-will-reach-USD-58-98-Billion-by-2022-Zion-Market-Research.html

2. "Next-Gen Data Center Trends IT Teams Shouldn't Ignore," eWeek, April 11, 2017. http://www.eweek.com/pc-hardware/next-gen-data-center-trends-that-it-teams-shouldn-t-ignore

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