

Metro Ethernet:

THE SIMPLE, SCALABLE WAY TO CONNECT

As Internet Protocol (IP) applications become central to corporate data and voice strategies, more and more companies are turning to Metro Ethernet - an Ethernet technology network in a metropolitan area - to implement cutting-edge services quickly and cost-effectively.

Since Metro Ethernet uses standard Ethernet protocol, the basis of most companies' internal local area networks, it allows companies to connect to a wide range of IP-based services in a simple and scalable manner. Its simplicity, flexibility and power make Metro Ethernet the logical choice to replace older network technologies such as frame relay, ATM services and SONET.

An exploding market

While Metro Ethernet has frequently been touted as "the next big thing," its time appears to have come. Carriers are increasingly moving away from legacy network infrastructure (such as SONET) and migrating to Metro Ethernet.

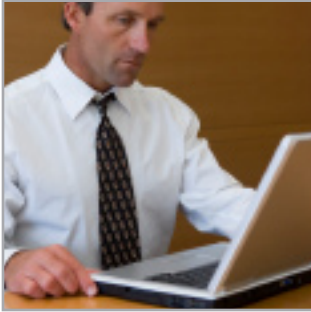
In fact, according to a report on Metro Ethernet Equipment by Infonetics Research, worldwide Metro Ethernet equipment revenue will double from \$3.8 billion in 2004 to \$7.6 billion by 2008. Metro Ethernet ports are growing even more strongly, increasing 433 percent between 2004 and 2008.

Similarly, IDC forecasts that the market for U.S. Metro Ethernet services will grow to over \$1.2 billion between now and 2008, a compound annual growth rate of over 30 percent.

Access to services

Why is demand for Metro Ethernet growing so rapidly? With its high-bandwidth capacity and a relatively low cost, it enables companies whose network traffic is growing strongly to move data and voice traffic affordably across a metropolitan area. In particular, Metro Ethernet can cost-effectively support:

High-bandwidth data services: The data traffic has increased exponentially over the past several years, as organizations become increasingly reliant on the Internet for internal, supplier and customer communication; to access hosted applications, and much more.



Optimum Lightpath offers a wide range of scalable services designed to fit each company's unique needs.

Existing leased lines or SONET solutions are not always able to handle this traffic, creating productivity-sapping bottlenecks. At speeds of up to 10 Gbps, Metro Ethernet provides companies the bandwidth they need.

Voice services: With its larger capacities, Metro Ethernet allows users to take advantage of Voice-over-IP (VoIP) services to handle their voice traffic. VoIP can be more cost-effective than legacy phone network solutions, helping organizations reduce the cost of metro-area calls.

Video-on-demand: An increasing number of industries are tapping into multimedia services such as video-on-demand as part of their daily operations. Hospitals and medical providers, for example, now commonly send detailed medical images over their networks. Many large companies provide training via online seminars.

Triple-play services: The convergence of data, voice and video is creating demand for so-called "triple play" services that combine video with IP-based voice and high-speed Internet access. Converging these three over a single Metro Ethernet network can reduce costs and simplify deployment.

Metro Ethernet benefits

When it comes to deploying these advanced applications, Metro Ethernet solutions provide a range of benefits over existing metro network technologies such as frame relay or ATM. These include:

Lower cost: At the heart of the provisioning of any network is the cost. Metro Ethernet services cost as much as 50% less than comparable TDM services. Metro Ethernet also provides a greater return on investment through lower total cost of ownership (TCO) and improved productivity.

Improved ease of use: Metro Ethernet is based on Ethernet, the same technology used in 98 percent of enterprise networks. What has made it attractive for local networks – robustness, cost-effectiveness and ease of use – also makes it advantageous for wide area communications. In addition, Ethernet's convenience makes it easier to learn compared to complex solutions such as ATM.

Increased capacity: Legacy T-1 networks cannot provide the bandwidth that optical Metro Ethernet can provide. Its high speed and capacity – as much as 10 Gbps – is much better suited to in-demand, high-bandwidth applications.



Our award-winning fully fiber optic network allows us to offer a 99.99% reliability guarantee.

Greater flexibility and scalability: An Ethernet-based backbone allows organizations to expand their LANs into WANs quickly and easily. Ethernet also allows on-demand provisioning of bandwidth, so companies can buy only what they need, then quickly “burst” their capacity should their needs suddenly change. With Metro Ethernet, this is accomplished via a quick software adjustment instead of a time-consuming and costly truck-roll.

Easier application access: The true value of any network is measured by the services and applications it provides. Metro Ethernet delivers a complete set of independent or converged services, such as Internet access, LAN extensions, and voice- and video-over IP.

Better business continuity: Metro Ethernet provides a solid backbone for an organization’s business continuity strategy, ensuring it can operate continuously through a disaster or other disruption. This is especially critical in certain industries where new regulations (such as Sarbanes-Oxley for financial services or HIPAA for hospitals and other healthcare providers) require documented business continuity plans.

Choosing a Metro Ethernet provider

To make Metro Ethernet part of your company’s network strategy, you need to choose a services provider that can meet your business needs. Look at these key issues:

What is the provider’s commitment to Metro Ethernet? Assess the provider’s experience with, and investment in, Metro Ethernet. A continuing financial commitment to the technology is essential for ongoing reliability, security and service.

How many Metro Ethernet services does the provider offer? A broad roster of core data, voice and value-added applications - as well as the ability to quickly provision bandwidth to make those services work - is a requirement.

What level of service should you expect? Network reliability is a crucial point of differentiation. Ask about service-level guarantees related to Ethernet services, with a minimum of 99.99% availability. Also, ask about network recovery times so that all applications, including critical ones such as voice and video, can seamlessly be restored.

How strong is the provider’s network infrastructure? Ensure that the provider’s network is fiber-based to avoid potential backbone bottlenecks. Ideally, the provider should own and operate his own network to have control over the customer experience and network costs.



Montefiore Medical Center was able to move to a digital imaging system because Metro Ethernet quadrupled their bandwidth.

Case Study: Montefiore Medical Center

To support its advanced healthcare applications, Bronx-based Montefiore Medical Center upgraded its network from an OC-48 SONET ring to gigabit Ethernet using Optimum Lightpath's dense wave division multiplexing (DWDM) core optical backbone. The gigabit Ethernet network links the hospital's Bronx-based Moses Division, Medical Park and Weiler/Einstein Division facilities to its data center in Yonkers, which houses more than 300 application servers.

The WAN network upgrade enables Montefiore to shift to 100 percent Computer Physician Order Entry (CPOE), eliminating the need for paper-based bedside charts. Physicians can now order tests and medicine, and communicate with the hospital staff through an online portal that is supported by the Metro Ethernet network. The hospital's Picture Archiving and Communications System (PACS) is also supported by the network, enabling storage and distribution of digital medical images that can be retrieved remotely or transmitted over the network.

About Optimum Lightpath

Optimum Lightpath, the business telecommunications services division of Cablevision Systems Corporation, uses the power of its own reliable and resilient fully fiber optic network to deliver converged, IP-based data, Internet and voice solutions to businesses throughout the New York metropolitan area. Over the past 17 years, Optimum Lightpath built an advanced fiber-to-the-business-premises network. As a result of owning and maintaining this state-of-the-art network, Optimum Lightpath can better ensure the quality of the customer experience, while delivering reliable, high-bandwidth business communications services at lower prices. Optimum Lightpath now provides its customers with a variety of scalable, high-capacity IP-based Metro Ethernet services (E-LAN and E-Line) to support high-bandwidth data, Internet and voice applications, while also delivering highly personalized customer service unparalleled by competing service providers. For more information, visit Optimum Lightpath at optimumlightpath.com