Ethernet
Your Technology Partner for the Future

Working to Redefine Your Business

Technology | Partnership | Choice

RCN BUSINESS

VOICE | DATA | VIDEO

UPDATING IT INFRASTRUCTURE
can be a daunting task.

With budget pressures high and a CIO (Chief Information Officer) expected to deliver higher performance at a lower cost, companies are looking to draw out the savings inherent in combining voice and data networks into one converged Ethernet network. But migrating away from legacy data networks and interfaces requires investment in both human and capital resources, which can often discourage companies from taking that first step.

Another factor that can weigh on a CIO is the complexity of the change. CIOs must constantly evaluate whether they have the in-house expertise to deploy new technology and services in order to take advantage of the enhanced infrastructure benefits.

ETHERNET
The gold standard for cabling computers.

Standardized in 1983 by the Institute of Electrical and Electronic Engineers (IEEE), Ethernet is a computer networking technology originally used to connect Local Area Networks (LANs). However, the technology now also allows companies across any industry to 'future-proof' their IT infrastructure at the WAN level, too.

Ethernet has evolved into an advanced networking protocol to connect farther distances and higher bandwidths and is widely used now in the Wide Area Network (WAN). More and more, Ethernet is the technology that companies of all sizes are choosing to deliver a host of benefits both at the LAN and WAN level.
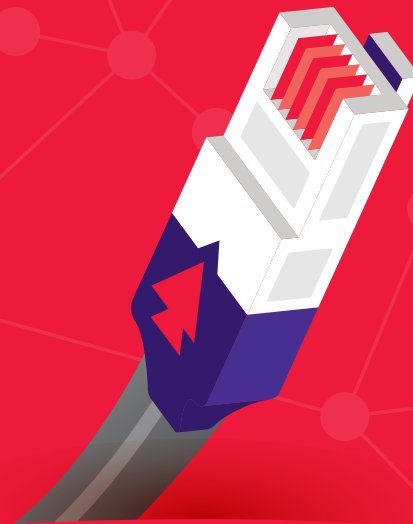
ETHERNET GROWTH

According to a 2013 IDC report, enterprise demand for Ethernet connectivity remains strong and shows double-digit growth globally. Growth is being spurred by companies using Ethernet to enable other services such as Dedicated Internet Access (DIA), IP VPNs and private cloud services. Around the world, businesses are expanding their use of Ethernet for Voice over IP (VoIP), video and other real-time applications such as telepresence communications, enterprise resource management systems and more. They also rely on Ethernet to enable on-demand bandwidth in a world where data volumes continue to increase at a phenomenal rate. And thanks to strides made by the Metro Ethernet Forum (MEF), Ethernet services have become more standardized over the past few years, delivering a reliable, recognized and highly manageable service to the user.

27%
GROWTH
(in 2-years)

$62B
MARKET VALUE
(by 2018)

Telecom analyst house Ovum predicted that the enterprise Ethernet market will reach a value of $62B by 2018, growing at a rate of 13.6% every year from 2012.

ETHERNET DEMAND

Ethernet service growth is increasing, particularly in North America. "U.S. market demand for business-class Carrier Ethernet services is solid. Businesses of all sizes will make purchase decisions to deploy hundreds of thousands of new Ethernet ports throughout the next several years, facilitated by a range of service options and competitive price points that have never been better," said Rosemary Cochran, principal at Vertical Systems Group. "Following a 26% increase in U.S. customer port installations last year, growth projections are on track to hit the one million mark by 2018."

26%
INCREASE IN PORT INSTALLATIONS

1,000,000
INSTALLATIONS
(by 2018)

Source: 2014 Vertical Systems Group, "U.S. Carrier Ethernet Services," http://www.verticalsystems.com/vsgpr/one-million-carrier-ethernet-service-ports-projected-in-u-s-by-2018/

ADVANTAGES OF ETHERNET

Value
More Affordable than TDM private line, MPLS and other legacy data networks

Highly scalable
Connect hundreds of sites with 10/100/1000 Mbps to 100 Gbps

Manageable
Delivers increased control over network management and routing

Consistent network interface
Seamlessly connects the LAN to the WAN for an all-Ethernet infrastructure with no additional equipment needed

High-Performance
Provides multiple Quality of Service (QoS) levels; delivers interoperability with MPLS and IP, Layer 2 transmission and performance advantage

Low latency and high throughput
Ideal for disaster recovery and today's other demanding enterprise applications

Standards-compliant
Delivers a known and consistent service over a network that IT staffs know how to manage

ETHERNET VS. LEGACY TECHNOLOGIES

It's clear that there are many impactful benefits of utilizing Ethernet for business communications. Legacy technologies such as MPLS, ATM and Frame Relay have their limitations. MPLS, for instance, requires that all network devices and management tools be compatible with both MPLS and Ethernet, making networks more expensive and complex. When organizations deploy an all-Ethernet infrastructure, network management is simplified and costs are reduced significantly. In addition, work on new Ethernet protocols continues actively, resulting in Ethernet speeds well beyond 10 Gigabit Ethernet (GbE). In fact, 40 GbE and 100 GbE are seeing widespread adoption today in networks around the world.

Over time, Ethernet has proven to deliver lower latencies, more control and higher throughput than other technologies. Its simplicity and lower costs coupled with an open-standards approach allows IT managers to solve real-world problems and prepare for future growth.

Ethernet can deliver reduced costs for similar service levels compared to other legacy technologies, or Ethernet networks can provide faster service for the same cost as legacy networks. It's easier to deploy than one might think. Ethernet is highly flexible and reliable, offering high performance levels, as well as ways for businesses to seamlessly connect remote offices, data centers and back-up sites. Today's bandwidth demands are ever-increasing, and companies are fortifying their networks to handle the ongoing implementation of data-intensive applications. Security is also top of mind, and companies must ensure proprietary data and software is protected. As a standards-based media access protocol, with proper configuration, Ethernet has evolved to increase reliability and improve management and troubleshooting.

Ethernet services address all of these issues, and offer a wide range of flexibility. It is important for companies to look for services that are delivered across a highly capable network and supported by a team that can guide customers to solve issues specific to their industry.

THE BENEFITS OF ETHERNET ACROSS INDUSTRIES

Healthcare

Healthcare IT managers are faced with many challenges, including establishing secure methods to transfer and store large files, as well as ensuring compliance with the many government rules and regulations such as HIPPA (Health Insurance Portability and Accountability Act), and the recently passed HITECH Act (Health Information Technology for Economic and Clinical Health), which expanded the scope and penalties related to noncompliance of HIPPA. Healthcare organizations must first understand the type of data they have; determine what data they need to keep in order to stay compliant; and then figure out the most optimal way to access and manage the data. The high volume of patient data must be accessible 24/7, often by parties that are located in different offices and hospitals. More and more healthcare campus networks are using Ethernet connections at the metro level to reliably link hospitals and doctors' offices with labs and other health service provider locations.

Secure network connections are paramount to protect patient privacy. Ethernet Private Line configurations with resilient ring topology in conjunction with Ethernet's strong end-to-end monitoring functionality deliver highly reliable data transmission and network uptimes.

THE BENEFITS OF ETHERNET ACROSS INDUSTRIES

Hospitality

Hotels, restaurants and bars are increasingly being pushed to offer ubiquitous and free WiFi – in hotel rooms and also in all common areas. Travelers and patrons, now used to having access anywhere, at any time for their multiple smart devices, demand connectivity and choose where to patronize accordingly. Ethernet-based Dedicated Internet Access can provide this feature both cost-effectively and reliably. Moreover, multi-site hotel and restaurant chains operating in today's fast-paced online business environment can upgrade and consolidate services onto a single network that supports voice, data and video traffic alike.

In addition, hotels are increasingly looking to improve customer experiences, and the deployment of High-Definition (HD), on-demand TV programming helps meet that goal. Companies such as Tangerine Global, deliver HD content, free-to-guest channels, video-on-demand programming and interactive apps. These types of dynamic services are made possible by deploying point-to-point dedicated Ethernet circuits (which in Tangerine's case) connect Tangerine's cloud node located at a nearby data center to individual hotels. At the hotel level, TVs are Internet-ready via CAT5 Ethernet cabling.

Through this type of configuration, hotels can deliver high-quality Over-the-Top (OTT) services such as to Netflix and Hulu. Hotels can also enable guests the ability to pair the TV with their own devices. The advantages of this type of configuration for the hotel include delivering superior guest experiences and improving ease of use for the guest.

THE BENEFITS OF ETHERNET ACROSS INDUSTRIES

Education

In today's education sector, advanced communications networks are essential to the delivery of cutting-edge services and capabilities to colleges and school systems. Intra-campus connectivity enables research, e-learning, connected classrooms, video transmission and a whole host of applications that are important for faculty and students. Ubiquitous campus Internet access is key, and communications networks must meet high storage demands, provide 24/7 accessibility and deliver reliability and security.

By combining Ethernet connectivity with Dedicated Internet Access, campuses from the university to the elementary school level can ensure secure transmission of their data over a dedicated and continuous connection between WANs, LANs and the Internet.

Secure connectivity across campuses connecting administrative buildings to classrooms and labs can be deployed using shorter distance Ethernet configurations. Campuses and universities benefit from Ethernet's inherent upgradability to easily increase bandwidth. Ethernet also offers flexibility to accommodate fluctuations in the number of users throughout the school year.

THE BENEFITS OF ETHERNET ACROSS INDUSTRIES

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Financial Services

Financial firms, brokers and financial services providers are in a constant race to make the fastest and most secure trades, while banks today are struggling to deliver apps and mobile technology that help staff stay relevant and deliver end-user services that their customers both want and expect. Complex regulations also have to be adhered to in the finance industry. Any organization that accepts, transmits or stores any cardholder data is subject to PCI DSS (Payment Card Industry Data Security Standard) and must ensure the physical security of their networks, as well as adhere to information security policies. Highly reliable, low-latency Ethernet networks are essential to not only to traders and hedge firms, but also to banks and other financial institutions.

The financial industry today is heavily leveraging Ethernet to design regional private data networks that are backed by highly resilient ring topologies that enhance network reliability and diversity. In addition, Ethernet's inherent scalability is ideal for financial businesses that need to add bandwidth over time as their business expands.

No matter what vertical market a business is in, Ethernet affords companies the ability to provision an alternate network entry point and provides for strong business continuity and disaster recovery (BCDR) opportunities. Secure Ethernet networks form the backbone for a company's BCDR strategy and help to assure the function of mission-critical enterprise applications 24/7/365.

ETHERNET SOLUTIONS
The RCN Business Advantage

While the fundamental Ethernet technology is familiar to most IT personnel because of its common use at the LAN level, not all Ethernet service providers are created equal. As you plan and build your network, it's important to partner with a carrier that has experts and leadership in meeting service performance requirements. In addition, look for a partner that can deliver the advanced Ethernet capabilities that you need, including class of service for voice applications, the ability to upgrade bandwidth quickly and an operator that has a network that can deliver and enable multi-point connectivity for your multi-site business.

A good guide is to check the list of carriers to whom the Metro Ethernet Forum has awarded its Carrier Ethernet 2.0 (CE 2.0) certifications, as those carriers have demonstrated the ability to deliver high-quality, advanced Ethernet services.

RCN Business was among one of the first carriers in the U.S. to have received the Metro Ethernet Forum's Carrier Ethernet 2.0 (MEF CE 2.0) certification, indicating RCN's ability to deliver today's most advanced, reliable and scalable Ethernet services.

Metro Ethernet Forum
Carrier Ethernet 2.0 certification

THE RCN BUSINESS ADVANTAGE

PARTNERSHIP

RCN Business partners to deliver solutions for today's Enterprise businesses. A dedicated RCN Business account representative will help identify a business's goals and challenges and work to deliver an intelligent customized solution that meets a business's specific needs.

Plus, RCN Business' U.S.-based Network Operations Center (NOC) proactively monitors your network, while local technical teams and a dedicated account manager are available 24/7/365 to attend to your business' needs.

CHOICE

RCN Business offers an array of Enterprise products, services and contract options to identify exactly what is needed to create a reliable, scalable, customized technology solution that contributes to a business's success and growth.

- Dedicated Internet Access (3 Mbps to 10 Gbps)
- E-Line point-to-point and E-LAN multi-point Ethernet
- PRI/SIP Trunking
- Hosted Voice
- Video Solutions (Cable TV)

TECHNOLOGY

Technology and customer support are critical to any business. RCN Business provides both with its tailored communications services over its state of the art fiber-rich network.

RCN maintains and operates its own resilient, fiber-rich network, offering extensive fiber density with redundancy and enhanced performance. Because of its robust network, service disruptions that are more likely to occur with older generation copper and TDM networks are eliminated. The RCN network is backed by Service Level Agreements (SLA's).

RCN Business offers a full suite of communications technology solutions, including E-Line point-to-point and E-LAN multi-point Ethernet, high-speed Internet, voice, video and network solutions.

For more information and to learn how to leverage Ethernet in your network architecture, please visit **rcn.com/business** or call **1-877-726-7000.**

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BUSINESS®
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