LUMEN

Leveraging Next-Gen Networks for Digital Transformation

What every chief experience officer (CXO) should know

IT modernization, the AI revolution, and new applications are forcing a host of enterprises to rethink and rearchitect the network in support of business growth objectives and competitive forces. Digital transformation offers immense potential, providing organizations with the opportunity to explore new possibilities, challenge conventional practices, and disrupt the status quo. This enables them to create innovative experiences that consistently delight customers.

Enterprises are continuously striving to maximize ROI while improving system performance, network efficiency, and service availability.

To make this possible, networks, especially those using the photonic layer, are evolving to become more intelligent and programmable, utilizing extensive real-time monitoring points that can be adjusted for different applications.

This provides organizations with the ability to take advantage
of flexible next-gen technologies without getting bogged down by increased operational complexity or data overload.

As this technology evolves and enables a seemingly endless array of applications in business, the expectations and requirements for C-Level leaders are changing.

Their success is now predicated on rapidly adapting new technologies to drive business growth — all while keeping employees engaged and productive.

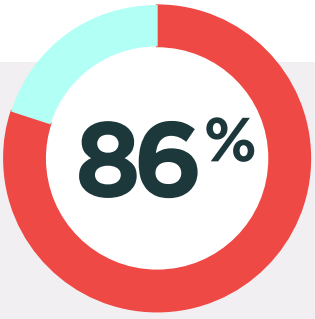
Left behind by legacy infrastructure

Unfortunately, current networks often have disparate legacy systems and protocols, leaving them unable to rapidly scale or adapt. These networks were simply not designed to adjust to the growing and shifting demands of a digital and data-driven environment, especially as companies adopt AI technologies. The integration of AI requires networks to be more flexible, scalable, and capable of handling high-performance computing needs, which legacy systems struggle to support.

Beyond the limitations of a legacy infrastructure, network management is cumbersome. Manual processes are often required to set up, maintain, revise, and decommission technology.

In response to aging infrastructure, many businesses are already adding or making plans to add capacity. But increasing bandwidth is not enough, especially when legacy infrastructure can't support new capabilities. In the race toward AI adoption, adaptability is key to updating and transforming networks.

As organizations embrace distributed data and mobile/hybrid work strategies, they are shifting data and applications to the cloud and moving to more flexible, software-defined networking infrastructure. However, businesses can't adapt unless they have capacity and an adaptable network that can also manage a dynamic environment from a holistic perspective — that is, capacity, bandwidth, latency, scalability and security – with end-to-end visibility.



86% of CIOs
don't think their enterprise networks are prepared for the AI ecosystem, according to IDC's Enterprise Horizons report.[1]

[1] IDC, Enterprise Horizons 2024, June 2024

7 digital transformation questions to ask your provider

Everyone knows technology is important – but leaders may not be entirely clear on what they should demand from network partners regarding the new technology-driven business paradigm. There are seven parameters every CXO should be asking of their network and technology partners to help ensure a best fit solution to redefine the destiny of their networking future.

1. **Dedicated capacity -** Can your provider deliver ultra-high bandwidth with ultra-low latency with a global reach across your core, edge, and cloud networks?

2. **Evolving technology -** Can your service provider support an intelligent and programmable infrastructure with self-servicing capabilities? Will their network support next-generation, end-to-end optical networking efficiencies for higher reliability and faster configurations?

3. **Secure and private -** How can your service provider help you minimize risks with a private network that is secure, yet flexible enough to adapt new services, both now and in the future?

4. **Transparent -** How do the networking solutions offered by your service partner align with the infrastructure you use today? With your future plans? Does your service provider offer protocol and application transparency, redundancy, reliability, flexibility and scalability?

5. **Integrated -** Can your service provider help you integrate existing network services with newer next-gen technology? Can they help you realize network efficiencies across both your Layer 2 and Layer 3 services?

6. **New services -** Does your service provider provide a design tool with end-to-end visibility? And once your design is set, how easy it for you to order network services? Can you install quickly without a major forklift upgrade?

7. **Continuous improvement -** Can your service provider give you unprecedented network visibility? Can they help you collect network performance data and analyze it using machine learning and AI to continually learn and improve? Can they help you anticipate potential network problems, assess network trends, and then design solutions that can help you transform your network to meet digital transformation goals?

"It's clear that adaptive networks with the combination of **software-defined and optical networking technologies can put businesses in command of their environment.**"

— Jeff Ary
VP, Lumen Product Management

Why the network is more important than you think

Businesses are in a transformative age where data is the currency, and the network is the engine that moves it. Enterprises must be able to create unique business value on their network, including product innovation and rapid product iterations, improved client experience, enhanced security and risk mitigation, automation and more.

"We've found there are two approaches to network design: those that think of the network as a commodity and those that realize the network can be a strategic advantage and a strong differentiator," says Brodie Gage, VP of Product Line Management and Solutions at Ciena.

Forward-thinking CXOs and IT decision makers understand the importance of transforming the enterprise network to support business objectives and customer requirements. Service providers must answer this call with uncompromising infrastructure and service model capabilities. Modern network architectures, such as Lumen® Private Connectivity Fabric℠ (PCF), offer the flexibility, scalability, and security needed to support the demands of a digital and data-driven environment. By adopting advanced network solutions, businesses can help ensure their networks are capable of handling high-performance computing needs, AI workloads, and the explosive growth of data, enabling them to stay competitive and innovative in today's fast-paced market.

New tools

For improved user and client experiences, businesses are leveraging AI to build systems and service models that use and generate large volumes of data to operate.

With adaptive connectivity from the core to the edge, new combinations of high-bandwidth, low-latency capabilities are available. Working with a service provider that specializes in network transformation, operates a global backbone, and provides digital tools for network design, quoting, and purchasing, can help organizations rapidly build networks and service models that transform customer and employee experiences for optimum business growth and value.

Modern digital and optical network architectures such as PCF are engineered to enable automation, orchestrate efficiencies in product development and launch, and drive value to the business. By leveraging PCF, businesses can help ensure their networks are capable of handling high-performance computing needs and adapting to the demands of a rapidly evolving digital landscape.

Is your network ready?

Lumen offers a future-ready infrastructure that scales with the pace of digital innovation. With robust security measures and comprehensive operational support, including space, power, and network management by national teams, Lumen helps ensure your business is well-prepared for tomorrow's challenges. Opt for Lumen nationwide deployment to mitigate risks and avoid the uncertainties of self-build projects, while benefiting from rapid deployment that helps accelerate your time to market. Our holistic approach extends beyond connectivity, delivering a tailored, all-encompassing suite of network services.

Get ready for AI with Lumen

Schedule a network consultation to learn how your organization can harness optical networking by leveraging Lumen Private Connectivity Fabric to address the critical digital infrastructure requirements standing in the way of digital transformation.

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