

ARTICLE

# Future-proof networks

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How today's enterprises are designing networks to stay ahead of changing demands



As the rate of change accelerates, future-proofing the corporate network is no longer a lofty ambition – it’s a business imperative. In response, today’s enterprises must transform the way they build, manage, and deploy networks at every layer in the network ecosystem, from the application and transport layers down to the optical underlay and everything in between. Three key drivers are making this vision a reality:

### 1. **Virtual network functions**

In the old environment, most network functionality was tied to a physical piece of equipment or hardware that needed to be deployed, turned up, and tested by a human. Today, network functions can be performed on commodity compute hardware anywhere across a network footprint or an enterprise’s infrastructure.

### 2. **Software-defined networking**

Accurately forecasting capacity and managing shifting demand in real time used to be impossible. With software-defined networking, enterprises can now dynamically adjust capacity up or down quickly as needs change — without additional capital infrastructure expense.

### 3. **Edge computing**

As more users need access to applications at the edge of the network, latency and performance matter now more than ever. The threshold for low latency has gone from ten milliseconds to five milliseconds.



**High-performing networks are now a critical and crucial element for business success. Adaptive networking technologies automatically pick the optimal path to help ensure the best quality connection is always available.**

**Combining these capabilities creates a broad range of business solutions that were aspirational goals just a few years ago.**

### **Just-in-time capacity**

As businesses experience growth or cyclical downturns, the flexibility that comes from being able to quickly add or decrease capacity eliminates the need for business leaders to overprovision bandwidth as a contingency measure, simplifying capacity planning and decreasing unnecessary costs.

### **Seamless upgrades**

Increasing capacity no longer requires a truck roll – and all the scheduling and resourcing headaches that come along with it. Upgrades can now occur during maintenance windows, so it's not disruptive to the business.

### **Circuit emulation**

Legacy technologies (SONET/TDM) were built for another and replacing this equipment can be cumbersome and expensive. Adaptive fiber technology can be used to encapsulate TDM signals and leverage reliable Ethernet technology to deliver reliable services and facilitate migration.

### **Congestion and outage management**

High-performing networks are now table stakes. Adaptive network technologies automatically pick the optimal path to help ensure the best quality connection is always available, avoiding congestion, minimizing degradation, and avoiding disruption, so businesses can maintain productivity.

Future-proof solutions are available now.

We partnered with Ciena to deploy optical technologies that deliver benefits for today's business environments and prepare businesses for the future. Contact us to schedule a network consultation and learn how your organization can harness optical networking to fulfill your digital transformation requirements.

**[Contact Lumen to set up a meeting to learn more.](#)**

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