



Wholesale Fiber Optic Solutions

Telecom providers worldwide have a responsibility to:

1. Connect people through providing a conduit to exchange information
2. Utilize the latest technologies, giving customers access to exchanges with minimal interruptions

In this data sheet, we will demonstrate the role fiber-based network services can play in helping carriers, including mobile operators, adjust to the growing demands of new data transmission systems, including the Internet of Things (IoT) and 5G.

Essentially, today's end-users want to transmit larger amounts of data at faster speeds than ever before. Mobile mean download speed in the U.S. increased 24% from Q1-Q2 2018 and Q1-Q2 2019. This trend, along with the proliferation of IoT devices, artificial intelligence and machine learning, is putting pressure on existing network infrastructure and causing carriers to demand access to a greater selection of fiber-based assets.

Opportunities for the use of optical fiber network solutions are diverse and extensive. While backhaul usually comes to mind, other areas of use include the medical field, data storage, video on-demand services and more.

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As carriers, when it comes to future-proofing your infrastructure to be ready for next-gen transmission systems, fiber stands a cut above the competition. Key benefits include:

- Lower Latency
- Increased Bandwidth
- Network Density
- Better Signal Strength
- Reliability

Satellite, cable and DSL are alternatives to fiber-based internet, but fiber is the fastest, most reliable, service available. The technology will be crucial to the ongoing development of new 5G networks that will allow the Internet of Things (IoT) and the Internet of Everything (IoE) to be used to their full potential.

Next Gen Network Architectures Require Fiber Optic Network Solutions

The future of next gen network architectures like 5G depends on fiber-based network solutions. In fact, wireline fiber is critical for 5G wireless to meet projected performance metrics. Mobile operators are already quite familiar with the idea of traditional fiber-based backhaul between a remote tower and a centralized headend. However, as they holistically revamp entire network structures to support the growing needs of their subscribers, they will require fiber in a myriad of alternate configurations. Example use cases include:

- Mobile Fronthaul
- Mobile Backhaul
- Network Functions Virtualization (NFV)
- Software-defined networking (SDN)



Now, instead of just concentrating on traditional backhaul between a remote tower and a centralized headend, mobile operators are beginning to require fiber-based fronthaul to a multitude of small-cell sites. Also, as existing telecommunications companies turn to decentralized software-controlled distributed access architectures (DAA), they are increasingly leveraging Ethernet services and SDN capabilities, backed by wireline fiber. From fronthaul to backhaul and transport, the role of fiber in supporting next gen network designs, including 5G, is critical.

DQE Communications Solutions

DQE offers carriers, service providers and others a variety of customizable, fiber-based wholesale network solutions that can meet their requirements for fast, reliable bandwidth. Here's the best of what we offer:

Metro Ethernet

With committed speeds from 10 Mbps to 10 Gbps, DQE's Metro Ethernet solution enables carriers to extend their services over DQE's WAN, connecting to their end users, to the Internet or between cell towers, via a redundant, secure 100% fiber optic network.

Dark Fiber

DQE's Dark Fiber solution is essentially fiber without all the electronics. It's a technology-neutral, dedicated and scalable network solution that can be used for a variety of applications. It gives carriers the ability to light

the fiber with their own network components and retain direct operational control over their networks at a fixed cost.

Wavelength

DQE's Wavelength Service is a premium solution that supports multiple protocols with high SLA's that offer low-latency, point-to-point connection over a single fiber. Carriers get a dedicated, transparent, optical wave signal for high bandwidth transport from 1 Gbps up to 100 Gbps.

DQE Benefits

In addition to our best-in-class services, you also get unmatched customer service. Here's what you can expect when you partner with us:

- 100% Fiber Optic Network owned and managed by DQE
- Custom Network Solutions
- Speed
- Reliability
- 24/7/365 Network Operations Center
- Customer Control Center
- Safety Conscious Workers

Strengthen your fiber connectivity to stand out and offer superior services.

About DQE Communications

Headquartered in Pittsburgh, Pennsylvania, DQE Communications is a fiber-optic Internet and data networking access provider for businesses and carriers throughout Pennsylvania, West Virginia, and Ohio. A subsidiary of Duquesne Light Holdings, DQE was established in 1997 to provide businesses with secure, reliable, and flexible network services. The company's continually expanding fiber-optic network currently spans over 4,200 miles, 2,700 buildings, 17 data centers, and 121 business parks. When working with DQE, you get a partner who is dedicated to understanding your needs and committed to delivering a solution that is right for your business.