

# fiber optic internet is the best choice for your business.

Fiber optic service delivers internet information to customers over thin strands of glass. Flashes of laser light can carry digital information long distances over these glass filaments without interference from weather, electrical signals, or radio frequencies. Traditional copper or coaxial connections don't have these benefits.

A fiber optic internet link can offer customers near limitless connection speeds (or bandwidth). Fiber optics offers business customers an internet solution for the years and decades to come. In the future, almost all telecommunications services will employ fiber optics as the connection medium.

All HGE.net fiber optic connections are symmetrical. (having the same connection speed in both directions) Services can also include a static IP (or internet) address. A static IP is analogous to a telephone number on the internet. It is a dedicated location where other users can contact you. Most lower-cost business internet service don't offer this important feature. Service packages also include hosted e-mail service and disk storage space to host a company website.



## why fiber optics?

### more secure than cable modem

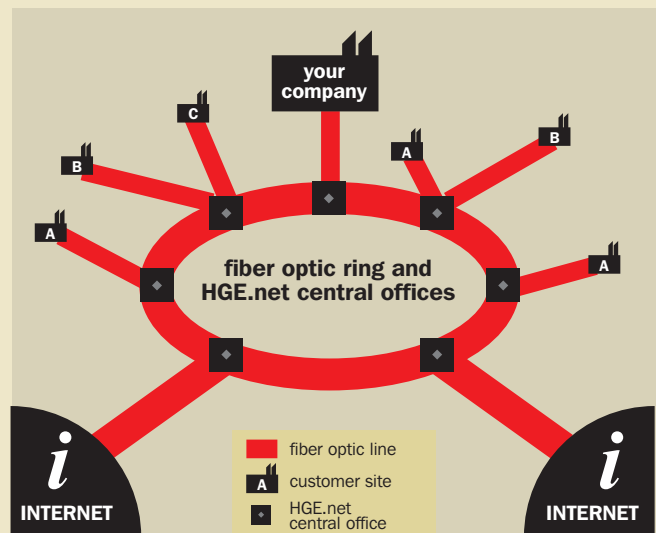
point to point dedicated fiber connections  
eliminate eavesdropping and aid performance

### more reliable than DSL

fiber optic cables aren't affected by moisture,  
electrical interference or distance limitations

### less expensive than a T1 line

the predictable reliability of a T1 line...  
but with faster connections and a lower cost



maximum speed: 100+ Mbps (dedicated)

typical price: \$450/month - 2.0Mbps symmetrical (w/ static IP address)

to learn more about how HGE.net  
can empower your business  
contact us at (413) 536-9444

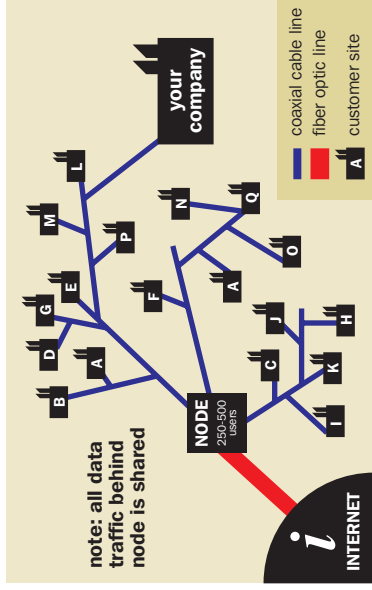
fiber optics vs.

## cable modem

Cable modem technology is analogous to the "party line" telephone of days past. With this technology, the cable operator takes a 6mhz (megahertz) section of their network's available capacity (analogous to a standard tv video channel) and shares it amongst 400 to 800 homes/businesses in a defined geographical area (or node).

Within this node, customers compete for that available 6mhz of bandwidth with often unpredictable results. Because of the shared nature of this single internet connection, cable modem providers are unable to offer any service speed commitments or guarantees. The speed of your connection will depend on the number of subscribers at that node, and the level of internet usage by those users. Even worse, all internet data responses are transmitted to every user in that node and the cable modem is merely designed to "not listen" to data that is intended for other users.

With a cable modem, there are no security or service guarantees.



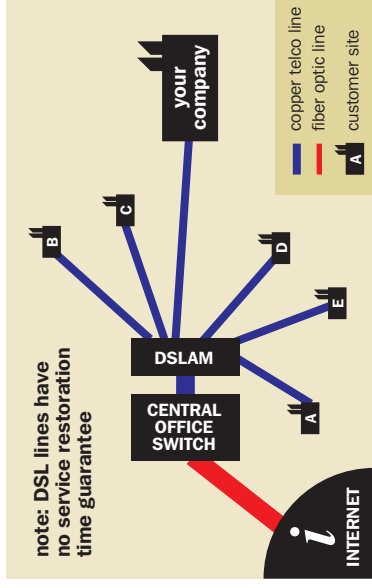
maximum speed: 8 Mbps (shared by all users)  
typical price: \$120/month (with static IP address)

fiber optics vs.

## dsl line

DSL technology "exploits" additional signal capacity in your existing copper telephone line. It communicates digital data information over frequency ranges that are outside the range of human hearing. Historically use of these frequencies has resulted in interference or "crosstalk" amongst the hundreds of copper wires in a typical telephone company distribution wire.

While recent technological advances have mitigated much of this interference, the fundamental design of a DSL connection places limits on both the speed and distance that data traffic can travel over these antiquated copper lines. Traditionally DSL service is not available if your site is over 2 miles from the telephone company central office. (which is usually located in the downtown area) Even within this 2-mile radius, service connection speeds will become slower the further you travel from this central office location. These factors make it very difficult for a DSL provider to offer any promises of a particular connection speed to their customers.



maximum speed: 3 Mbps (shared)  
typical price: \$90/month (with static IP address)

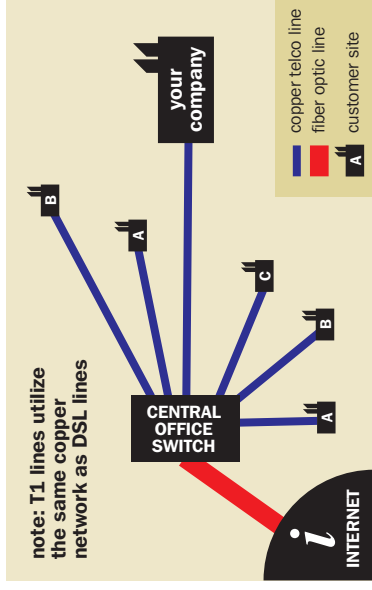
fiber optics vs.

## T1 line

T-1 lines share the same basic copper wiring as DSL and voice telephone services. But unlike DSL service, a customer's line will terminate at the telephone company central office at a port with a committed speed rating. For a T-1 line, this speed is 1.544 Mbps. (megabits per second)

A T-1 line comes with a stronger service commitment than either a DSL or cable modem connection. T-1 lines are traditionally accompanied by response time assurances in the event of a line failure. While higher-priced DSL services often are accompanied by a SLA (service level agreement), there in actuality is no guarantee of repair response time on the bare copper wire over which the DSL signal is provisioned. Thus it becomes impossible for a DSL provider to promise a customer any form of service restoration guarantee.

T-1 lines also don't have distance limitations like DSL lines. For a T-1 line, the telephone company will engineer a solution to deliver the line to almost any location.



maximum speed: 1.5 Mbps (dedicated)  
typical price: \$450/month (with static IP address)

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