

Be smart when buying network cables.

One of the best ways to make everyone in your business more productive is to give them reliable high-speed access to the Internet. Shopping for the right high-speed Internet Service Provider (ISP) and buying the latest computer equipment are both of major importance in making this happen.

There is, however, one more essential element in achieving fast, reliable Internet — your network cabling.

Although wireless networks are rapidly growing in popularity and reducing the need for cabling, a hard-wired network is more reliable, less vulnerable to interference, and is far more secure.

If your business is using — or plans to install — network cabling, it's important to know that these cables are available from many sources in many different price ranges. What you choose for your business can mean the difference between having an efficient, reliable network or none at all. For VoIP users, it could mean no phone service as well.

It's important to choose cabling that fits your type and size of business and is less likely to fail. Cabling experts recommend that you take the following steps before choosing or replacing your current network and cabling.

Make sure the cable is BICSI certified.

The Building Industry Consulting Service International, Inc. (BICSI) is an industry association created to serve the needs of telecommunications consultants. BICSI has set standards for cabling that cover the design, installation and integration of information communications technology, including optical, fiber, copper and wireless-based distribution systems.

As an ANSI-accredited, consensus-based standards development organization, their measures help telecom consumers confidently choose safe, efficient and effective products, systems and services. Choosing network cabling that has been BICSI certified is essential.

Calculate how much bandwidth you need.

Your bandwidth needs depend on a number of factors. These include:

1. How many workstations are currently connected to your network? If you plan to grow your business, how many more workstations might you need to add in the future?
2. What is the volume of data you need your network to handle? Does your company have a few users who often create and/or share graphics or send large Microsoft® PowerPoint® presentations or video files? Then you may need much more bandwidth than a larger firm primarily creating and sharing things such as Microsoft® Word and Excel files and other less space-demanding documents.

There are many applications available that you can use to quickly, easily and accurately monitor your network's usage over several days to determine your current bandwidth requirements. It's smart to allow for extra bandwidth to cover future growth. Then you can easily add new employees and workstations or expand data usage without having to upgrade your cabling.

Estimate the distance the cable must travel.

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This distance impacts the type of cable you can use for your network, as some cable materials can transmit data a farther distance than others.

Choose the material that fits your business and your budget.

Network cabling is typically available in one of two materials — optical fiber and twisted copper. Here are some of the pros and cons of these two options:

- **Optical fiber:** As the most advanced cabling material, optical fiber can deliver the fastest speed (up to 10 gigabits), is the most durable, and can go the longest distance (up to approximately 6500 feet). Optical fiber is also the best option for rapidly growing your business, as it can deliver more bandwidth. It is also more secure and less vulnerable to being tapped. The one downside to optical fiber — besides its higher price — is that, if it is not installed in a clean environment, you could experience transmission problems. Optical fiber does not perform well if it gets scratched or dirty. If your business network is in a storage closet or other dusty environment, you might experience problems with it.
- **Twisted copper (Cat5e or Cat6):** Twisted copper cable can run about 325 feet and deliver speeds of 1 gigabits for Cat5e and ten gigabits for Cat6. It is far more affordable and should work for most businesses unless their environment is within the range of any kind of electrical interference. This interference appears when the cable runs too close to electromagnetic equipment or radio waves from such sources as medical CAT scanners or military installations. If you purchase twisted copper cabling that has been properly jacketed, however, it can reduce some of this interference and be almost as durable as optical fiber.

Understand why higher quality, US-made cables are worth the extra money.

You may be surprised to find dramatic differences in the pricing of cable, especially Cat5e or Cat6 Ethernet cable. That's because every element in a cable contributes to how well it performs: the plugs, crimping process, and jacketing. Most bargain-priced cables tend to be made overseas and are composed of cheap parts using cheap processes. Buying U.S.-made cables helps assure that you'll get maximum durability and performance out of your cabling and a much lower failure rate.

We have heard many stories of cheap cabling not performing even close to the specifications listed on the packaging — and causing interference because they are not properly coated.

When selecting cabling for your business, remember that cables can be stepped on and bent, stretched and spilled on. They run inside of walls, around corners, under floors, and through ceilings. Having well-made cables that use quality parts and deliver on their listed specifications is key to reducing replacement costs and keeping your network and your business up and running.



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