Wireless Network vs Wired Network: Advantages and Disadvantages

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Although the current trend is definitely towards wireless networks, mainly because they are often more convenient for users, wired networks can be superior when it comes to issues such as network security and faster upload/download speeds. | Source

Increasingly, the needs of modern homes and many work spaces are for greater and more versatile internet coverage than just having a single PC, or group of PCs wired up to a router with ethernet cables.

Wireless networks enable multiple devices to use the same internet connection remotely, as well as share files and other resources.

They also allow mobile devices, such as laptops, tablets and ipods to move around within the network area freely and still maintain a connection to the internet and the network.

There are also disadvantages to wireless networks, however, especially when you compare them with wired networks, which generally maintain a faster internet speed and are more secure.

Below, I have listed all of the above points, plus the other main advantages and disadvantages of a wireless network vs wired network.
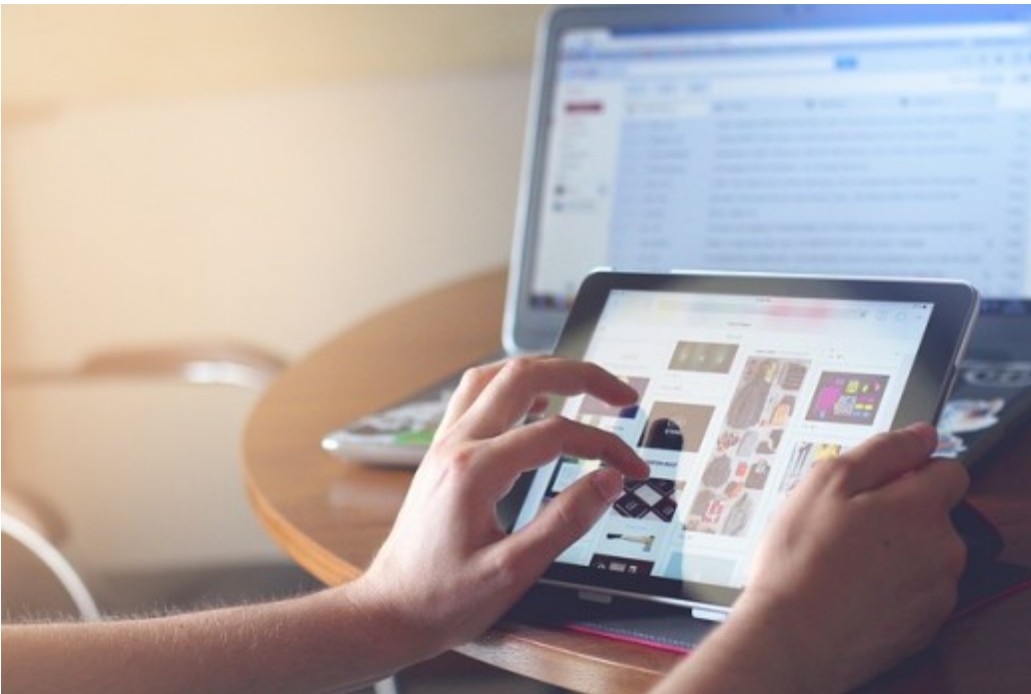
It doesn't matter if it's a wireless or wired network. I think network management can be introduced that is equally sensible.
— Vint Cerf

Benefits of a Wireless Network

To be happy in this world, first you need a cell phone and then you need an airplane. Then you're truly wireless.
— Ted Turner

Accessibility and ease of use are the main advantages of wireless internet. There is no need for cables, sockets, etc. making life easier for the user, and potentially the network provider too, as set up costs can be lower. | Source

Advantages of a Wireless Network over Wired

- As I mentioned in the introduction, the main advantage of a wireless network over a wired one is that users can move around freely within the area of the network with their laptops, handheld devices etc and get an internet connection.

- Users are also able to share files and other resources with other devices that are connected to the network without having to be cabled to a port.

- Not having to lay lots of cables and put them through walls etc. can be a considerable advantage in terms of time and expense. It also makes it easier to add extra devices to the network, as no new cabling is needed.

- If you are a business such as a café, having a wireless network that is accessible to customers can bring you extra business. Customers generally love wireless networks because they are convenient.

- Wireless networks can sometimes handle a larger amount of users because they are not limited by a specific number of connection ports.

- Instant transfer of information to social media is made much easier. For instance, taking a photograph and uploading it to Facebook can generally be done much quicker with wireless technology.

Did You Know?

The world's first wireless computer communication

network, known as ALOHAnet, was created by a

university professor in Hawaii named Norman Abramson

in 1971. His system used cheap ham-like radios and

featured seven computers located across four islands,

they communicated with a central computer without the

use of phone lines.

Wireless networks allow for more freedom of movement, as well as stopping the need for cords and plug sockets when using a digital device. If you are a business working with the public, you may also find that many people expect wireless access. | Source

New security loopholes are constantly popping up because of wireless networking. The cat-and-mouse game between hackers and system administrators is still in full swing.

— Kevin Mitnick

Wireless networks generally deliver slower internet speeds than wired ones. File transfer speeds are also slower. Connections can also be blocked by everyday obstacles, such as walls, doors, and furniture. Connections are also usually less secure. | Source

Disadvantages of a Wireless Network

- It can require extra costs and equipment to set up, although increasingly routers have built-in wireless capability, as do devices such as laptops, handheld devices, modern DVD players, and TVs.

- Setting up a wireless network can sometimes be difficult for people who are not experienced with computers. (Although there are issues with setting up a wired network too, off course!)

- File-sharing transfer speeds are normally slower with wireless networks than they are with cabled. The speeds can also vary considerably according to your location in relation to the network.

- The general speed of a wireless connection is also usually much slower than a wired one. The connection also gets worse the farther you are from the router, which can be a problem in a large building or space.

- Wireless connections can be obstructed by everyday household items and structures such as walls, ceilings, and furniture.

- Wireless networks are generally less secure. There can also be problems with neighbors stealing bandwidth, if the network hasn't been set up to be password protected. Information is also less secure too and can be easier to hack into.

> *There is an underlying, fundamental reliance on the Internet, which continues to grow in the number of users, country penetration and both fixed and wireless broadband access.*
> — Vint Cerf

Most modern laptops, tablets, and mobile phones are designed so that they can connect to wireless internet sources without the need for cables and wires. There are often security concerns associated with this, however. | Source

> *I read recently of the advent of a completely wireless house. Having just moved house and being drowned in billions of cords and cables, that sounds like a great thing to have.*
> — Julian Ovenden

Summary of The Advantages and Disadvantages

Activity/Category	Wireless Network	Wired Network
Freedom of movement for users	Users can access network from anywhere within range.	Users location limited by need to use cable and/or connect to a port.
Sharing Files	Easier with wireless network as you do not need to be cabled to network, though transfer speeds may be slower.	Generally less convenient as you have to be cabled in, but transfer speeds often faster.
Cables	Far less complicated, disruptive, and untidy cabling needed.	Lots of cables and ports needed which can be a headache.
Business	For businesses dealing with public, customers like and often expect wireless, so wireless can increase income.	Wired networks are not convenient for public use, but sometimes acceptable for a traditional office.
Connection speeds	Usually slower than wired.	Usually faster than wireless.
Security	Less secure than wired. Both bandwidth and information can sometimes be accessed.	More secure than wireless.

Activity/Category	Wireless Network	Wired Network
Set up	Upgrading to a wireless network can be difficult and expensive.	Can also be difficult and expensive to set up.