The wired network is using copper lane and fiber lane. Wireless network dose not using cable.

The standard of wired network is IEEE 802.3 and wireless network is 802.11 family.

Mobility and Roaming of wired network is limited, wireless network is higher.

The security of wired network is high, wireless network is lower than wired, also easy to hack.

The speed or bandwidth of wired network is high speed up to 1 Gbps, wireless network is lower speed than wired network.

Wired network is physical access required to network, wireless network is proximity required.

The delay of wired network is low, and the delay of wireless network is high.

The reliability of wired network is high, and the reliability of wireless network is lower than wired.

The flexibility to charge of wired network is less flexible to changes, wireless network is more flexible configuration.

The working principle of wired network is CSMA/CD, operates by detecting the occurrence of a collision. The working principle of wireless network is CSMA/CA, hence reduces possibility of collision be avoiding collision from happening.

The interference and Fluctuations vulnerability of wired network is very less, and wireless network is high.

The installation activity of wired network is cumbersome and manpower intensive. The installation activity of wireless network is less labor intensive and easy.

The installation time of wired network is takes longer time to perform, and wireless network is very less deployment time.

Wired network is dedicated and the wireless network is shared connection.

The installation cost of wired network is high, and the installation cost of wireless network is low.

The maintenance or upgrade cost of wired network is high, and wireless network is low.

The related equipment of wired network is router, switch, and hub. The related equipment of wireless network is wireless router and access point.

The benefits of wired network is wired network have greater speed, higher noise immunity, highly reliable and greater security. The benefits of wireless network is no Hassles of cable, best for mobile devices, greater mobility, easy installation and management.

|  |  |  |
| --- | --- | --- |
| Parameter | Wired network | Wireless network |
| Communication Medium | Copper, Fiber, etc. | Air |
| Standard | IEEE 802.3 | 802.11 family |
| Mobility and Roaming | Limited | Higher |
| Security | High | Lower than Wired. Also easy to hack |
| Speed / Bandwidth | High Speed up to 1 Gbps | Lower speed than Wired Network |
| Access to Network | Physical Access Required | Proximity Required |
| Delay | Low | High |
| Reliability | High | Lower than Wired |
| Flexibility to change | Less flexible to changes | More flexible configuration |
| Working principle | CSMA/CD, operates by detecting the occurrence of a collision. | CSMA/CA , hence reduces possibility of collision be avoiding collision from happening |
| Interference and Fluctuations vulnerability | Very less | High |
| Installation activity | Cumbersome and manpower intensive | Less labor intensive and easy |
| Installation Time | Takes longer time to perform | Very less deployment time |
| Dedicated / Shared Connection | Dedicated | Shared |
| Installation Cost | High | Low |
| Maintenance (Upgrade) cost | High | Low |
| Related equipment | Router, Switch , Hub | Wireless Router, Access Point |
| Benefits | \* Greater Speed  \* Higher noise immunity  \* Highly reliable  \* Greater Security | \* No Hassles of Cable  \* Best for mobile devices  \* Greater mobility  \* Easy installation and management |

We choose wireless network because

**Installation Speed and Simplicity:**Installing a wireless network system reduces cables, which are cumbersome to setup and can impose a safety risk, should employees trip on them. It can also be installed quickly and easily, when compared to a traditional network.

**Wider Reach of the Network:**The [wireless network](https://blog.wei.com/an-overview-of-wireless-networking-why-its-necessary) can be extended to places in your organization that are not accessible for wires and cables.

**More Flexibility:**Should your network change in the future, you can easily update the wireless network to meet new configurations.

**Reduced Cost of Ownership over Time:**Wireless networking may carry a slightly higher initial investment, but the overall expenses over time are lower. It also may have a longer lifecycle than a traditionally connected network.

**Increased Scalability:**Wireless systems can be [specifically configured](https://blog.wei.com/the-importance-of-having-a-digital-ready-network)to meet the needs of specific applications. These can be easily changed and scaled depending on your organization’s needs.

Https://blog.wei.com/6-benefits-of-wireless-networking-wireless-networking-solutions

**New opportunities**

Wireless networking could allow you to offer new products or services. For example, many airport departure lounges, train stations, hotels, cafes and restaurants have installed 'hot spot' WiFi services to allow mobile users to connect their equipment to their 'home' offices while travelling.

#### Increased efficiency

Improved data communications lead to faster transfer of information within businesses and between partners and customers. For example, salespeople can remotely check stock levels and prices while on sales calls.

https://www.nibusinessinfo.co.uk/content/pros-and-cons-wireless-networking