

## Wireless technology is taking root in the home and office

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by Sloan Foster



Embedded wireless technology affects everyone's life. The typical person is often unaware of how much its convergence influences even the most simplified tasks.

Its impact on a typical home and small businesses is such that wireless will enhance the "wired" world we use today. Wireless convergence, simply put, combines distinct technologies that overlap and will evolve over time to seamlessly work together.

Converged voice networks, data networks, and video networks, brought together into a wireless environment, will combine a multimedia platform in both the residential and commercial environment.

Take the automobile key that resides on the end of a person's key chain. Its remote control can provide convenience with a simple click of a button by unlocking car doors from a distance. When the temperature is hovering in the mid '90s, this wireless device not only opens the car, but also starts the air conditioning to begin cooling the interior. Through this simple technology, a driver can quickly escape the searing South Texas heat trapped inside the car.

In the typical residence, parents use a wireless device to monitor their sleeping infants, while their teens use wireless joysticks to play video games. Homeowners take wireless devices like their TV, VCR, TiVO and DVD remote controls for granted. Many companies have tried to consolidate these various remotes into a single controllable infrared handset much to the delight of users.

### Benefits to business

Businesses also benefit from wireless convergence. Wireless cameras will replace traditional security cameras by using unlicensed Federal Communications Commission radio frequencies. Security professionals could then place cameras in locations that were hard to reach or where thieves could cut the wiring connecting them to their monitoring station.

Wireless convergence also makes it easier for businesses to move their workers' laptops or computers. Now, when a company holds a meeting, each of their workers can bring a laptop to take notes or to send e-mails back to co-workers to get a timely status report on a key business issue.

### Benefits to home

Today, wireless convergence can direct voice, video and data in a home through what is known as Multiple-In-Multiple-Out (MIMO) technology router. Called "MIMO" routers by many wireless technical professionals, this device can prioritize each signal coming into a business or home.

A homeowner can buy a MIMO router at any computer or technology store. Content providers like Time-Warner Cable or AT&T are leasing a wireless router that typically only supports data connectivity for personal computers.

If someone is building a home today, they should ask their architect or home designer to add Category 5 wiring, which will make a personal MIMO router work more effectively. In fact, they should ask their builder to design a small technology closet that allows them to separately store this router along with access control panels to their fire alarm, burglar alarm and their heating ventilation and air conditioning system.

This special closet should be located away from high radio-frequency zones located near the garage and appliances, which use a large amount of electricity. (Think of turning on your blender and microwave at the same time in a home that was built 20 years ago while watching television.) By centralizing these devices, a homeowner can possibly turn on his or her alarm system, adjust the air conditioning to turn on 10 minutes before their children get home from school, or monitor their nanny at work.

### **Making it work**

To make these wireless convergence platforms work, a home owner must embrace IP, or Internet Protocol, when building or remodeling a home. IP-based technology for the MIMO router can work in any residence that has broadband connectivity. In fact, many providers offer bundling in their pricing, making it less expensive for high-speed access than if you used more than one service provider.

In some communities, local governments are collaborating on projects that allow wired homes and businesses to fully embrace wireless convergence. Wi-fi-enabled cities like Philadelphia and Corpus Christi are making portions of their communities wired so that a person can conduct business from a park bench or on their boat.

The changes that wireless convergence have brought in both the personal and business sector have considerably improved our lives. However, as more and more people fully understand its technical capabilities, wireless convergence will rapidly change the way we live today.

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