What about Z-Wave (and other wireless home control protocols)?

Wireless control of your entire home sounds good, doesn't it? Especially if you've already fallen in love with your wireless home network. Sure, some people have had problems with wireless phone interference, and yes, there are security concerns, and of course it takes 5-10 times longer to backup a hard drive over wireless versus wired Ethernet, and yes, it does seem to be true that you can almost always find an unprotected network anywhere you are, but still and all, wireless works! We all love our cell phones, too. Yes, the quality is ridiculous and of course they hit dead spots every time you're trying to make a really salient point, but we don't care - we can't live without them.

But maybe home control deserves something better than being adequate in the best case and downright frustrating in the worst. Wireless home networks make sense because most homes don't have Cat 5 ports everywhere you might want to plug in an intelligent device. Cell phones make sense because we want to stay connected no matter where we are in the world. But your home doesn't travel, and everywhere you want to control an electrical or electronic device, you have to have power, making use of the powerline to send and receive control signals the most logical approach of all.

Until now, there was no reliable, affordable alternative for powerline control. And so systems like RadioRA from Lutron prospered. Although expensive, RadioRA is engineered, built, tested and supported to exacting standards and it is a very robust system. Robust, but too pricey for the average homeowner. Now come Z-Wave, Zigbee, Insteon and other wireless approaches. It's hard to believe that products costing 15-20% of RadioRA have been subjected to the same rigor in engineering, production, testing and support.

What are the potential problems with low-cost wireless systems? For one thing, they are either mesh systems or they require repeaters in order to propagate signals to devices anywhere in the house. Even so, early tests with various low cost systems show how difficult it can be to get wireless control signals through floors, walls, plants, furniture etc. For the mesh system approaches, you may need to replace nearly every switch and outlet in the house in order to be assured that signals can get to every desired location. Even so, what about detached garages, pools, patios, yard lights, gates etc.?

There is also the issue of interference. With more and more wireless gadgets entering the world everyday, interference becomes an ever bigger issue. Have you ever experienced interference on your cell phone? With cell phones, you can always say "Can you hear me now?" a lot and call your party back later when conditions are better. Home wireless networks do the same thing by retrying as many times as necessary to get your Internet traffic to your PC. But how willing are you to wait for a light to turn on or have to press the control button two or three times before getting the results you want? Most people have a very low tolerance for flaky light switches. (Could this be why X10 has been such a frustrating experience for so many hopeful souls?)

And then there is security. Although there are encryption methods available for most wireless devices, it's amazing how many unprotected wireless networks can be latched onto in the neighborhood or at a business hotel.

The new wireless products may seem like reasonable alternatives for home control, but after considering mesh requirements, security concerns, reception problems and interference possibilities, many integrators are opting for less problematic solutions – like UPB!