A NOTE FROM JULIE JACOBSON

Cellular Networks: The Fifth Utility?

REMEMBER WHEN INFRASTRUCTURE WIRING used to be called the “fourth utility”? It was considered to be as important as water, electrical and telephone service.

Flash forward to about 2011 when home networks were the new fourth utility. You had to have always-connected Internet for your streaming media, surveillance cameras and home automation systems.

If IP networks are the fourth utility, then cellular networks must be the fifth. As important as it is to install high-quality wired and wireless networking gear, it is now just as important to keep every household online at all times with robust cellular networks.

Cellular systems are more important than ever, as consumers are dropping their landlines and adding more mission-critical devices to the network – home control and monitoring systems, 3G and 4G machine-to-machine (M2M) surveillance cameras, geo-location services, telehealth and even cloud-based services such as speech-recognition.

At some point a rich cellular infrastructure may be the most important network in the house.

In a matter of only two years, home technology specialists have rushed to rescue clients from cellular dead spots, facilitate seamless handoffs from one cell zone to another, reduce dropped calls, improve data speeds and increase reliability of mission-critical services such as security monitoring.

Home systems integrators are uniquely equipped to analyze and improve cellular communications in and around homes and commercial facilities … just as they do currently with Wi-Fi, HDMI, Z-Wave and ZigBee, LAN-based networks and more.

Home Wi-Fi and energy audits today are commonplace for homeowners who demand top performance and efficiency. Why not throw cellular evaluations into the mix?

Julie Jacobson, editor-at-large, CE Pro

jjacobson@ehpub.com, @juliejacobson
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THE STATE OF CELL PHONE SIGNAL

History, Forecast and Frustrations

1948
Expansion
Cellular Service
1981
First Smartphone
Third Generation
2001
3G Wireless Internet access achieves higher speeds, which supports Mobile TV, Video Conferencing and GPS
2010
The HTC EVO 4G from Sprint is the first cellular phone to meet 4G standards, running on the WiMAX network

1946
First Mobile Phone
Radiotelephone services are created for limited uses, including police departments, truck fleet operators, and the military

1973
First Cell Phone
The first handheld device to make a phone call over cellular networks is invented

1991
Mobile Internet
The first wireless Internet access becomes available as part of the second generation (2G) of mobile phone technology.

1995
Full Spectrum
The first cellular system using digital CDMA technology was commercially launched by QUALCOMM

2003
EDGE for GSM
EDGE is an enhancement for the GSM networks and allows for a faster data connection and performance.

By 2017
50% will have 4G Coverage

By 2020,
90% of the World’s Population will have 2G
85% is expected to have 3G Coverage
6 internet connected devices ...Per Person!

BY 65%
of Online Cell Phone & Smartphone Owners Experience Cell Phone Signal Issues Indoors

69% of online cell phone and smartphone owners who make calls indoors have done something to improve signal reception

Sources
AT&T
Mikogo
eHow.com
Business Insider
Federal Communications Commission

Go Outside 51%
Stand by a Window 43%
Stay in One Room 28%
Switch to Landline 23%
WHAT IS COMING BETWEEN YOU AND THE CELL PHONE SIGNAL?


ACCORDING TO PEW RESEARCH, some 88% of American adults have cell phones, and, among those cell owners, 72% of them experience dropped calls at least occasionally. Creating an indoor environment that has strong cell phone signal is important when relying on mobile devices to stay connected, organized and entertained.

Both natural and man-made objects weaken the strength of cell phone signals. Here are nine common things that can affect your indoor cell phone signal:

1. Green building materials
2. Heavy foliage in the warm months
3. Hills and mountains, valleys
4. Adjacent tall buildings
5. Metal roofs and/or Metal-backed insulation
6. Distance from cell tower
7. Basements below ground, hard for signal to penetrate
8. Thick building construction
9. New low-energy or energy-savings windows block or weaken signal

WAVE, SPIN, HOP — ALL TO GET A STRONG SIGNAL
From standing in one room to heading outdoors, the zBoost has uncovered the many things consumers have done to get and keep a strong signal:

Remained in one room
Used landline instead
Some consumers go to even great lengths to stop the “Can You Hear Me Now”
Stand in one spot without moving … sometimes it seems not breathing helps too!!!
Turned my phone upside down
Wandered all over the building
Wave around in air, spin in circles, hop on one leg
Lifted one leg, while holding aluminum foil fashioned into a makeshift lightning rod standing on a three-legged chair near a window
Flapping my free arm
Chanting old proverbs
Understanding what components weaken your signal is important to finding a solution that provides strong signal. Many media rooms and offices are located in basements or the backs of houses and add the new low-energy windows and you quickly have a weak signal issue. For consumers or their custom installers that are building a new home, remodeling or updating electronics, the cell phone signal booster is a desirable (and profitable) add-on. Cell phone signal boosters, such as the zBoost product line, are a tool that amplify outdoor signal throughout an indoor area. Wi-Ex developed the zBoost product line to ensure consumers and commercial clients have reliable signal for offices, homes and even cars.

What is a Dead Cell Zone & How To Report It?

WHETHER YOU USE the term “dead zone” or another term to describe a signal-strengthened area, most of us have experienced the dead cell zone at one point or another. A dead cell zone exists in buildings, homes, parks, resorts, stadiums, hospitals and public places where cellular phone calls are frequently dropped, network congestion is experienced or an area where cell phone signal is not available.

Deadcellzones.com has created a wireless coverage complaint database to track and report these areas. The “Consumer Generated Coverage Map” provides consumers with outdoor and indoor cell phone reception problem locations for AT&T, Verizon, Sprint, T-Mobile, MetroPCS, Tracfone and other regional carriers. The map database holds over 100,000+ cell phone complaints, dropped calls and data congestion areas contributed by actual customers.

Research conducted by deadcellzones.com has determined that cell phone users are frustrated when they consistently experience poor cellular coverage in their home, office or car. Deadcellzones.com estimates 50% of U.S. homes do not have seamless wireless coverage and may require in-building solutions to fix the problem. The hope is carriers and other local entities will use the wireless coverage complaint database to help improve signal coverage in the future.

Deadcellzones.com provides a streamlined process for finding and reporting dead cell zones throughout the U.S. Visit this video showing how easy it is to report a dead cell zone through the Dead Cell Zone complaint database: www.deadcellzones.com/demo.html#.UZzp0aUrT6Y

Article by: Dead Cell Zones (http://www.deadcellzones.com) Deadcellzones.com’s mission is to become the voice of billions of wireless consumers and identify all relevant dead zones, dropped calls, network congestion areas that should be fixed. The map database was founded in 2001 and has become a crowdsourcing platform for sharing notorious problem reception locations.


THE AVERAGE U.S. HOME has 24 different consumer media and communication devices, including multiple televisions, computers and smartphones. When you combine this the rapid growth of home automation, will the homes of the future look more like the Jetson Era where everything from the thermostat to entertainment devices are controlled with the touch of a button and from anywhere?

Parks Associates projects that more than 20 million U.S. households will have some type of central control or home automation system in place over the next couple of years including entertainment, lighting, energy management, security systems and home healthcare devices. Here’s a look at six technologies for the connected home that provide installers a value-add.

1. UNIVERSAL REMOTE CONTROL
For many consumers, the Universal Remote Control can be an entry point to home automation. This one device can simplify the control of even the most complex entertainment systems and provides an easy add-on to entertainment systems. Imagine movie time with the blinds closed, lights dimmed, Blu-ray turned on and movie started all at the touch of a button.

2. SECURITY SYSTEMS AND CAMERAS
Today’s IP cameras are so small and discreet and reasonably priced, a security system can easily be added to any home. With amazing communications capabilities, consumers can easily arm and disarm systems, check systems status and receive a text, email or phone call the moment an alarm is set off. In addition, with IP cameras there is the peace of mind that the footage is securely recorded off-site.

3. REMOTE OR AUTO-TIMED INDOOR AND OUTDOOR LIGHTING
Having remote control over lighting offers several benefits, the most compelling of which is being able to turn lights on and off to make it look like someone is always home. Lighting systems can also be integrated with motorized shades with both having the ability to be controlled via the Internet.

4. SMART THERMOSTAT
Gone are the days of coming home to a house too cold or too hot. Today’s “smart” thermostats can be monitored and controlled from a smartphone, tablet or automated to adjust according to time of day, the outdoor temperature, or time of the day when someone is home. According to the Energy Star program, households with a programmable thermostat can save around $180 a year on their energy bill.

5. WI-FI AND CELL PHONE SIGNAL BOOSTERS
With so many connected devices in the home, a poor Wi-Fi signal can easily frustrate homeowners. Wi-Fi boosters allow consumers to extend their Wi-Fi signal into areas without additional cabling or network configuration.

Cell phone signal boosters take the outside signal and amplify it throughout an indoor area. Wi-Ex developed the zBoost product line to ensure consumers and commercial clients have reliable signal for offices, homes and even cars. zBoost improves indoor cell phone signal by capturing and enhancing outside signal, then bringing it indoors.

6. SMART APPLIANCES
From dishwashers to refrigerators and dryers, today’s new smart appliances can be programmed to run when your electric rates are lowest while others can keep track of the food in the fridge and find recipes to match that inventory. And like tablets or smartphones, many of these can also run apps and connect to social media networks.

If you are a homeowner, looking to start a wireless or home automation project, CEDIA members are a great place to start. Working with a CEDIA member will help ensure you don’t make mistakes and will provide the best home automation solution for your budget. Visit www.cedia.org to find a consultant near you. The most important thing to remember is given how quickly technology change, you want an installer who is trained on the latest in electronic system design, installation as well as product compatibility.
LIVING IN THE SMARTPHONE ERA
SOLVING DEAD CELL ZONES FOR RESIDENTS

CHALLENGE
Consumer and professional usage of smartphones continues to skyrocket as a solution to stay connected, organized and entertained. According to New Relic, the average smartphone user accesses it about 150 times a day — about once every 6.5 minutes. Everything from personal schedules and business emails to live feeds of tailored content are available at their fingertips.

This dependence on mobility requires users to ensure strong cell and data signal, which can be a challenge for millions of Americans in dead zones. Several of Kiwi Audio Visual’s clients are like these millions who struggle with poor indoor cell phone signal. While Kiwi Audio Visual still sees landlines in most homes, they suspect that their clients use their mobile phone 90 percent of the time at home.

SOLUTION
Kiwi Audio Visual had two clients in large homes who had very bad cell locations with little cell coverage indoors. A San Diego residence covered 10,000 square feet and an Orange County covered 14,000 square feet. Both of the clients utilize their cell phone as their primary communications.

The residents used Sprint and Verizon and the zBoost Dual Band Commercial kits increased signal for all major carriers in the homes for multiple users. The signal bars increased from zero to one up to two to four inside the residences. The homeowners can now utilize their mobile phones, smartphones and tablets in the home without worrying about dropping calls or slow data.

Kiwi Audio Visual notes the ease of install, great coverage, and repeatability of installation regardless of the size of the residence as key benefits to its customers.

ZBOOST PRODUCTS USED
The installs included the zBoost Commercial Solutions Division Kits. The kits include all of the components for a complete system solution whether for commercial environments or large residential applications and utilize the proven zBoost technology from Wi-Ex to improve cell phone voice and data signals.

Benefits
▷ Boosts indoor signal for cell phones, smartphones, wireless data cards and wireless alarm panels.
▷ Reduces dropped calls and improves cell phone signal indoors, increasing performance of voice and data.
▷ Some of the benefits for the cell phone users include extending battery life, replacing landline phones, reducing or eliminating dropped calls and increasing wireless performance.
▷ Improves indoor cell phone voice and data signals for all major carriers (except Nextel).
▷ Utilizes distributed amplifier architecture for increased reliability and flexibility.
▷ All system components included for easy installation.
▷ System kits available for coverage areas up to 20,000 and 40,000 square feet.
▷ Uses patented technologies that protect the carrier network.
IN OUR MOBILE AND content-driven world, we utilize technology to ensure we stay connected, organized and entertained. According to Pew research, 55% of cell phone owners use their phones to go online including to browse the Internet, exchange emails, or download apps and basically stay connected.

Staying organized and entertained are also basic benefits of smartphones and new technology. According to Harvard Business Reviews Vision Statement, “How People Really Use Mobile”, 34% of all interactions on a mobile device is for productivity and 46 percent of people use their mobile devices for their “me time” including, watching videos, reading a gossip site, playing games and window shopping.

In today’s fast-paced world, aligning technology to be efficient and accessible is a necessity. You must be able to work with emails, calendars, documents and multimedia on the go. The zTeam compiled a list of tips, technologies and tools that can help you.

DEVICES SUCH AS SMARTPHONES AND TABLETS:
The options are endless and the benefits keep getting better. These mobile devices allow you to access the same information as from a standard computer, but on the go! They also provide the ability to effortlessly connect professionally, socially, physically and even mentally, ensuring efficiency through the tools they offer.

TIPS: HOMEWORK BEFORE BUYING A DEVICE AND SERVICE
1. Know your carrier. Make sure that the carrier provides signal where you live, work and need access to a strong signal. No need to buy from a carrier if your house sits in a deadzone.

2. Evaluate your needs and uses.
   a. Are you a heavy texter?
   b. Do you work from home and make lots of calls?
   c. Will you be using your phone to stay connected on the Internet?
d. Are you going to take lots of pictures and upload them?
e. Will you be mainly reading on your device?

3. Check features taken for granted.
   a. Battery life – varies across phones
   b. Weight and size – Does it fit in my pocket? Does it fit in my purse? Does it matter?
c. Speaker – Check out a voice call – is it clear?
d. Camera – Do I need a flash? Dual camera mode? What size megapixels?

4. Create a grid and compares devices and match against your needs and carrier plans.

**EXTRA TIP:** Research by Pew Research Center shows 72% of cell owners experience dropped calls at least occasionally. Signal can be weakened depending on your location near the cell tower and by surroundings such as trees, buildings and terrain. So once you get home with your phone, you may find that your home office or certain rooms or even the entire inside of your house may be a deadzone. This can be remedied with a cell phone signal booster.

**APPLICATIONS FOR YOUR DEVICES (APPS):**

ABI Research (March 2013) predicts 56 billion smartphone apps will be downloaded in 2013. Many help people stay connected, entertained and organized and cost between free and $1.99. Yet, there are apps that contain complicated algorithms that cost around $1,000.

**TIPS: FOR BUYING AN APP:**

1. Only buy apps from known sources.
   Some phones can be set to only allow purchases from the Apple iTunes or app store or Google Play store. There are many stores in which to buy apps, but like any download, make sure the source is known as virus-free. Viruses do exist and something a “friend or relative” has sent you may not be virus-free.

2. Check out the reviews.
   a. Can it be reviewed without buying it? If so, the reviews may not be legitimate.
   b. Read the good and bad reviews. The bad reviews shed light on issues that may or may not affect you.

3. Is there a trial period for a “paid” app? Use it to test the app.

4. Search for the app using the name or a function. The app is tagged with features and functions to help people find it. There are also sorted by use – i.e. games, productivity, etc.

Some of our favorites for staying organized, connected and entertained:

- **CamScanner:** Apps that allow users to be mobile are also endless but the one that stands out to us is the CamScanner. You can take a picture from your smartphone or tablet and provide a PDF or JPEG document to someone in a matter of minutes. The best part is that the quality is surprisingly as good, if not better, than the office or home scanner.

- **Social Media Apps:** A key form of entertainment on the go today is through social media such as Facebook, Twitter, Instagram and Vine. Instant content regarding what you choose is available to you on live feeds that can be viewed on all mobile devices. You tailor what content comes to you through these programs. Entertainment doesn’t get more efficient than this!

- **Pandora:** This app allows you to listen to music in a category and recommends new artists via that category.

- **Spotify:** Making your music playlists personal, this app allows you to build playlists and with a premium service subscription you can playback the songs when your device is “offline.”

- **Evernote:** Take notes, recording meeting sessions, store pictures and record ideas all while one the go with this app. This new-age digital notebook ensures no ideas are lost with customizable features for our note-taking preference

- **Grocery iQ:** This app lets you create your grocery lists by entering products yourself, scanning their barcodes with your device’s camera, searching by voice, and saving favorites you buy regularly.

**EXTRA TIP:** Accessing connectivity, organization and entertainment tools through a mobile device takes extreme data requirements, making consumers aware of the reliability and strength of their cell phone signal. LOW signal means SLOW signal AND slow productivity of the mobile device. Recent industry statistics by Pew Research reveal that more than 75% of cell phone Internet users experience slow download speeds that prevent things from loading as quickly as they would like. Ensuring strong signal and continued entertainment is as easy as setting up a booster product. You can speed up (up to 20x faster) you slow data with a stronger signal by using a cell phone signal booster.

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The zTeam invites you to share your Tips, Tools and Technologies that help keep you Connected, Entertained and Organized. Email tips@wi-ex.com to share your ideas and enter to win a free zBoost.
zBoost Brings Your Mobile up to Speed with improved signal, FASTER DATA and longer battery life

zBoost Signal Boosters:
- Boosts indoor signal for voice and data transmission
- Decreases dropped or missed calls
- Supports multiple devices
- Easy setup; no recurring fee
- Protects the carrier network

84% of smartphone users browse the Internet
65% of smartphone owners experience indoor dead zones
...zBoost users don’t

www.zBoost.com
1-800-871-1612
4 THINGS TO KNOW ABOUT 4G

The “fourth generation,” or more commonly known as “4G” technology, is increasingly becoming an essential aspect of everyday life. 4G controls all data on mobile devices, while 2G and 3G control voice. According to Pew Research, 77% of cell internet users experience slow download speeds that prevent things from loading as quickly as they would like. These slow speeds are a result of extreme data requirements mobile devices demand from signal. As smartphone and tablet usage increase so will the need for ensuring a strong 4G signal.

Knowing the basics of 4G is the first step to understanding what your mobile device requires and why your device is slower in certain areas. Here are 4 things every mobile device owner should know about 4G:

**In Search of 4G:** Your 4G phone will attempt to connect to 4G no matter how weak the 4G signal is, therefore the battery will decrease rapidly while searching or switching between 2G/3G and 4G. In fact when placing a call your phone switches to 2G/3G and then switches back to 4G when your call is over.

**Location is Key:** 4G is still in the early stages of deployment nationwide and not all areas offer full 4G service. 4G phones are backwards compatible with 2G/3G, so if you venture into an area without 4G service your phone will still be supported by your carrier.

**Speed is Everything:** The new 4G networks offer data speeds several times faster than 3G which is comparable to the broadband Internet services delivered to homes and businesses through cable TV or phone lines. 4G speeds vary by wireless provider. Signal boosters, such as the zBoost DataBlast, aid in amplifying weak 4G signal indoors.

**Multiple Users:** A single 4G connection has a large capacity and is able to be shared by multiple users, just like a home broadband link. Users can use it to set up a “mobile hotspot” that can connect several laptops or smartphones to the Internet through the 4G connection. 4G can boost devices other than cell phones, such as tablets, Datacards, 4G modems and netbooks.

**Creation of Cell Zones Help in Disaster Recovery**

Consumers all over the world rely on their cell phones as an essential communications tool. Mobile users in developing countries rely on their mobile phone as their portal to the world, and without that signal they are isolated from communicating with the outside world. CEO of Quantum Networks, Ari Zoldan, travels to the most remote and impoverished locations the world over to supply towns and villages with desperately needed infrastructure and technology.

In January 2010, Mr. Zoldan traveled to Haiti as a communications specialist volunteer and used zBoost Dual Band to help strengthen signal in the area and keep those affected by the disaster connected to the outside world.

“Based on my volunteering experience in third-world countries including Haiti, companies such as zBoost can add significant value to disaster relief situations. During my stay in Haiti we were off the grid so we were able to use a wind turbine to power the device and seamlessly have signal allowing connectivity to both voice and data. I left the zBoost installed so that the residents of that area can stay connected to the outside world during this difficult time,” said Zoldan. “After seeing the zBoost at work in a real life crisis situation, I can see how the product can be utilized in other parts of the world during disasters and emergencies.”

zBoost provides disaster management officials with solutions to help boost cell phone signal in areas of weak service for personal and public safety issues including disaster areas, campuses, health care facilities, safety and emergency vehicles, and public parking decks.

Mr. Zoldan has also traveled to India in 2011 to provide Internet and wireless technology to Sarah College in Dharamshala, home of the Dalai Lama. In August 2011, Mr. Zoldan went to a rural village in South Sudan, supplying refugees with technology devices to allow them to connect with the world. Quantum Networks believes that technology can help develop impoverished areas and aims to make an international, social change by supplying these countries with the latest technology.
“I never thought signal boosters did much, but after testing out the Wilson Electronics Sleek 4G-V in December I became a believer and enjoyed the increased Verizon wireless signal at my house. I've been testing the zBoost SOHO DataBlast YX550 and think it is an even better solution for those looking to boost their cellular signal at the home or office.”

“Weak signals and dropped calls can still be a source of aggravation, especially when you're traveling in a car. That's where the zBoost zForce YX240 comes in handy.”