What Does the End of 2G Mean for Your Security System?

Discontinuation of 2G networks has widespread implications for security systems

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Introduction

Cellular carriers, such as AT&T and Verizon, recently announced that they plan to discontinue their 2G networks. The decision has **widespread implications for residential security systems**, as radios typically operate over these lower-speed networks.

As the era of 2G comes to a close, so too do many of today's security systems. As a homeowner, are you prepared for the transition?

This ebook outlines what you need to know, so that you can ask the right questions of your provider, and ensure continued security coverage into the future.

Telecommunications Networks 101

Verizon touts that it hosts "the iPhone 5 on the nation's largest 4G LTE network." But, you may find yourself asking: What does "4G" really mean, and how is it different than its earlier counterparts (2G and 3G)?

Plus, while we like to relate 4G to cellular and Internet service, we need to remember that networks also affect security, data analysis and more. So, how are these areas affected? Let's start with the basics.

The History of Network Technology

The term "generation" or "G" is used to name the **different phases of telecommunications network technology,** as it's progressed over the years.

The earliest cell phones were built using **analog** (non-digital) to transmit audio signals. Analog, in addition to digital signals are used to transmit information, usually through electric signals. In both these technologies, the audio information is transformed into electric signals. The difference between analog and digital technologies is that in analog technology, information is translated into electric pulses of varying amplitude. In digital technology, translation of information is into binary format (zero or one) where each bit is representative of two distinct amplitudes. However, because analog messages were unencrypted, hackers could easily eavesdrop on calls. In addition, analog allowed for a lot of noise interference.

2G (second-generation) wireless technology was developed in 1991 to improve cell phone call bandwidth and quality. An improvement to analog, it allowed initial data transfer on mobile devices, mainly text messages.

Through expanded frequencies, carriers were able to introduce larger bandwidth options as customer demand grew. Released in 2002, **3G** (third-generation) improved upon 2G, offering greater speed and reliability. With it, mobile Internet access, video calls and more, which were once hindered by bandwidth, became a reality.

While 3G is still commonly in use, many cellular carriers have begun shifting resources to the rollout of **4G** (fourth-generation) across markets. With rates around 1 gigabit per second, 4G provides the highest levels of telecommunication connectivity and quality. As a result, all major carriers (AT&T, T-Mobile, Verizon, Sprint) have invested in aggressive pushes to expand their 4G coverage offerings.

But, as new technologies grow, what happens to their predecessors?

The Death of 2G Networks

With the benefits of 3G and 4G apparent, **cellular carriers are phasing out 2G.** In the technology and security worlds, this is known as the "2G Sunset," and it is expected to culminate within the next five years.

As explained in the Wall Street Journal: "With every network generation, the technology becomes more efficient at carrying information. As a result, companies can get better and more profitable usage from shutting down older networks in favor of newer ones."

That said, spectrum harvesting is already in place. Essentially, carriers have begun reserving their best frequencies for 3G and 4G service, restricting 2G to lower frequencies with the intent to phase it out altogether.

By eliminating 2G, carriers can increase the data capacity of their airwave space (a necessity as smartphone usage grows) and provide their 3G/4G customers with faster speeds. On the flip side, however, this means that 2G service signals will decline, as these signals will be banned from the carriers' best frequencies.

Security System News puts it this way: "the reality for alarm companies is that signal strength will decline for a lot of equipment in the field as these changes take hold."

Consumers using 2G should **expect unreliable connections and slower speeds than in the past** as updates are made system-wide.

The Impact on Security Systems

The death of 2G has obvious impact for consumers who own older mobile phones. For example, the first iPhone will no longer be supported. However, the transition also **has lesser known, but just as widespread, implications for security systems.**

As mentioned in the Introduction, millions of Global System for Mobile (GSM) radios used for security systems run on 2G networks. To date, 2G devices have been the industry norm when it has come to installations. Yet, as cellular carriers cease support for these older, slower networks, upgrades will be needed across systems.

Upgrades are not vendor specific and will impact almost all security systems on the market today. While it's been a topic of discussion for security providers for quite some time, there will likely be transition pains due to the amount of consumers that will need to be migrated to newer security systems.

How to Prepare for the Network Transition

As a consumer, it's best to **understand your options now, and be confident your selected provider has your future interests in mind.**

This is true whether you are just purchasing a new system or have been using one for years. Below are items to consider based on both scenarios.

In the Market for a New Security System

Looking to buy a new security system? **Don't buy one that relies on a 2G network,** as your system will be out of date and need replaced within the next few years. Plus, depending on where you live, it may suffer from performance issues even sooner than that, due to the spectrum harvesting we discussed earlier. Opt instead for one that runs on 3G or 4G to ensure longer viability.

Bet on a partner that is knowledgeable about the 2G Sunset, and has **shifted its product offerings where the market is heading—not where it was.** Ask too about the provider's plans for upgrading existing customers that may be on a 2G network currently, and if this transition will impact your new service, support and maintenance in any way.

Existing Security Customers

If you have a security system in place, don't risk loss of coverage due to poor planning on the provider's end. Good partners will have an upgrade and roll out plan in place, and will have already begun prepping for the transition. Start asking questions now.

The below questions are a good place to start the conversation:

- ***Will my security system be affected by the 2G Sunset?*** Keep in mind that since 2G was the predominant technology used in security systems, the answer will likely be "yes." This is not a cause for concern, unless your provider doesn't have an upgrade plan in place. If that's the case, you may want to start looking for a new security partner.

- ***What's your road map for updating customer systems?*** Focus on timelines, technologies and installation processes. Keep in mind that most 2G networks will go black on December 31, 2016. At a minimum, your system should be upgraded prior to that date; however, for the best service, push for something sooner.

- ***How many customers will be affected?*** If a large percentage of customers need upgraded, double check that the provider has a solid plan in place for roll out in order to reach all markets in time. The more customers that need upgraded, the harder it will be for the provider to meet cut-off dates, and the sooner they should start upgrades.

- ***Can I update my system in advance, or do I need to wait for a tiered rollout?*** Some providers may have 3G and 4G technologies available immediately for installation upon request; others won't. Know your short-and long-term options. In many cases, security providers will have a tiered rollout plan in place based on geography or type of customer. Know where you fit into that system.

- ***Will I incur any fees?*** Ask if there are service charges to upgrade your system, if new equipment must be purchased, and if monthly service rates will be affected. Understand any costs involved on your end, and those your provider will incur.

Strong partners will be able to intelligently answer the above questions, and provide you with a clear action plan for how and when your system will be updated.

They will also keep you regularly informed throughout the process, so that you're never left in the dark about what to expect and when. Look for a proactive partner that is committed to providing you the best security options now and in the future.

Company Overview

For more than 40 years, Vector Security, Inc. (www.vectorsecurity.com) has been a premier provider of intelligent security solutions tailored to the needs of the customer. Headquartered in Pittsburgh, the company offers a full suite of electronic security services for residential, business and national account customers across North America and the Caribbean through a network of branches and authorized dealers.

Vector Security is a sister company of the Philadelphia Contributionship, a private insurance company founded in 1752, and currently provides cost-effective, technology-based security solutions to more than 260,000 homes and businesses.

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Jeff Bates could have ended up a professional baseball player. The Toronto Blue Jays once recruited him. Lucky for Vector Security, he chose the business route. As Chief Operating Officer, he is responsible for all branch functions as well as operational support. An avid fly fisherman, Jeff has fished in more than 100 bodies of water, though he still dreams of one day casting his line in New Zealand and Belize. His other interests include carpentry, hiking, camping and traveling. Jeff currently resides near Pittsburgh, where he enjoys spending time with his wife and children.