FIERCE Wireless

3G shutdowns should not be delayed – Rysavy

by Peter Rysavy | Feb 22, 2022

Driven by competitive pressure to constantly improve, technology has an inherent need to obsolete itself. This applies to virtually all technologies, whether iPhones, Windows operating systems, or generations of cellular. Providers of technology-based products and services strive for backwards compatibility, but they can maintain it for only so long before the cost of doing so becomes too high and undermines the benefits of new technology improvements.

Any responsible company relying on technology must be mindful of the fact that no hardware, software, standard, or service lives forever. So it's dismaying to see some companies now acting as if planned 3G sunsets are a surprise — particularly because operators announced them years ago.

Operators in the United States, including AT&T, T-Mobile, and Verizon, all plan to retire their 3G networks in 2022. Doing so will enable them to reallocate spectrum for 5G. Because 5G operates so much more efficiently than 3G, it can deliver multiple times the bits per second per Hertz, resulting in faster speeds for consumers and lower-cost plans.

Conversely, keeping 3G operational deprives 5G users of needed spectrum, especially in the lower bands used by 3G that offer excellent propagation. Moreover, the spectrum resource allocated to 3G is underutilized: AT&T reports that less than 1% of traffic is carried on 3G.

The FCC recognizes the benefit of modern technology. For example, during her confirmation process, FCC Chairwoman Jessica Rosenworcel told senators that, "The transition from 3G wireless networks to more advanced 4G and 5G networks will produce significant benefits for all consumers, including faster speeds, greater capacity, better security, as well as new and innovative services."

New generations of cellular technology have rolled out in approximate 10-year cycles. For example, 2G first became available in Europe in 1991, and in the United States in 1996. 3G based on Universal Mobile Telecommunications System (UMTS) technology appeared first in Japan in 2001 and was launched in the United States by AT&T in 2004. 3G based on a competing standard, 1X-Evolution Data Optimized (EV-DO), arrived in the United States in 2003. I first wrote about UMTS in a report for 3G Americas in 2002.

3G has thus been around for 20 years, far longer than most other modern technologies. As for 4G, Verizon was the first to release 4G LTE in the U.S. market in 2010. 4G will likely be available through the rest of this decade. Finally, 5G networks came to market around 2020.

Operators announced in 2019 the plan to sunset 3G in 2022, giving the ecosystem ample time to transition to alternative technologies. Even in advance of these announcements, any reasonable observer should have anticipated the end of 3G. In 2018, I wrote in a private report for an avionics company depending on cellular connectivity that countries with high LTE availability and coverage were likely to shut down 3G in the early 2020-2025 period, which is turning out to be the exact case.

Operators should not be criticized for retiring a 20-year-old technology. In fact, they should be commended for keeping it alive as long as they have. Comparatively, the computer industry is ruthless. The latest version of Apple's iOS, version 15, won't work on devices older than the 2015 iPhone 6s, representing seven years of backward support. Microsoft, a touch more generous, introduced Windows 10 in 2015 but won't support it past 2025.

Still, some businesses, including alarm companies, didn't take responsible actions, even though they had viable upgrade paths. ADT, a leader in this space, states that it has "been preparing for this transition for years, and we have converted nearly all of our customers' systems which use 3G/CDMA radios."

This is not the first time that alarm companies have grumbled about the sunsetting of cellular technology rather than improving their long-term planning. For example, companies in this space complained about 1G cellular being turned off.

Just as with the aviation industry complaining about 5G in C-Band affecting their badly designed, and one assumes filter-free, altimeters, companies that have not planned properly for the 3G sunset are trying to shift their mitigation costs onto the public by delaying the deployment of innovative technology.

Throttling back the 3G sunset timeline will decrease the performance of 5G services for everyone. This request is unreasonable, has no legal basis, and is contrary to current U.S. spectrum policy that advocates for 5G world leadership.

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