



January 28, 2022

Decommissioning 3G Networks: Impact on Consumer Devices

Background

About every 10 years, a new generation of wireless technologies emerges, offering greater capacity, higher speeds, and new features. Private telecommunications providers invest billions into their networks to migrate to next generation technologies—3G, 4G, 5G—to improve network capacity and performance, offer new devices and services, attract new customers, and generate revenue.

When providers migrate to next generation networks, they often decommission (i.e., shut off and dismantle) older, obsolete networks. Around 2016, providers began planning their 5G networks, using existing 4G infrastructure. Simultaneously, providers began planning to decommission their 3G networks and notify customers of decommissioning dates. The dates varied by provider but generally ranged from February 2019 through early 2022.

For network operators, decommissioning allows them to focus resources on 5G networks, which many in Congress see as critical to maintaining U.S. leadership and competitiveness in the global telecommunication market. Meanwhile, consumers who have older (3G) devices have voiced concern to Members that once providers turn off 3G networks, they will no longer be able to use their cell phones to access critical services, including 9-1-1.

While providers have informed consumers of the 3G decommissioning and offered upgrades to newer-generation phones, there are often added costs to consumers. Additionally, other devices, such as home alarm systems, personal medical alert systems, court-ordered ankle monitors, and vehicle safety technologies rely on 3G networks and may be affected by the 3G shutdown.

U.S. wireless providers began announcing shutdown dates in 2016, then extended decommissioning dates several times, due to many reasons, including delays associated with the Coronavirus Disease 2019 (COVID-19) pandemic. AT&T expects to finish shutting down its 3G networks in February 2022, Verizon by December 2022, and T-Mobile, which is shutting down its 3G networks in segments—by March 2022, June 2022, and July 2022.

In May 2021, the Alarm Industry Communications Committee (AICC) filed an emergency petition with the Federal Communications Commission (FCC), asking it to direct AT&T to delay the discontinuance of its 3G data service until December 31, 2022. Other industry and consumer groups filed comments in support of the petition, while AT&T argued that device makers had ample time to ensure consumers had upgraded devices, and many manufacturers and suppliers had successfully transitioned.

The FCC did not act on the petition, thus AT&T is proceeding with its 3G decommissioning as planned. As decommissioning dates approach and device makers

continue to report challenges transitioning customers to new devices, Public Knowledge, a public interest advocacy organization, called on the FCC to oversee the 3G decommissioning. It asserts that while it supports the phase-out of 3G, “the FCC must exercise oversight to ensure that the transition is safe, orderly, and protects public safety and vulnerable customers.”

A challenge for Congress is deciding whether regulation of the decommissioning process or other actions are necessary to protect the ability of consumers to access critical communication services.

Stakeholder Views

The AICC and commenters to its petition raised a wide array of concerns and identified potential impacts from 3G decommissioning.

AICC

The AICC noted that “tens of millions” of Americans may be affected by loss of 3G services, including

- people who use 3G-based home alarm systems;
- businesses, hospitals, and government facilities that depend on 3G-based security alarms;
- courts and criminal justice agencies that use 3G-based electronic monitoring devices;
- motorists who depend on 3G-based in-vehicle safety services and highway call boxes;
- those seeking emergency assistance in elevators;
- workers in agriculture, oil, and other industries using 3G devices for tracking and safety in the field; and
- the elderly who use personal emergency response systems (PERS) that allow them to live independently at home; the American Association of Retired Persons (AARP) estimates there are 3 million PERS users.

School Bus Technologies

A U.S.-based company that manufactures school bus connectivity technologies noted that “over 100,000 school buses and other vehicles, including first responder, utility, and construction vehicles, and over-the-road freight carriers rely on 3G services for safety, compliance with federal mandates, and logistics.” The National Association for Pupil Transportation cited obstacles to transitioning buses related to the COVID-19 pandemic, including those associated with the global semiconductor shortage.

Connected Car Technologies

General Motors claims that 20 million global OnStar subscribers—its navigation and communication system—may be affected. OnStar is to push a free software upgrade to mitigate issues for owners of post-2015 car models. However, owners of older cars may lose service. The Alliance for Automotive Innovation noted that Jaguar Land

Rover has approximately 260,000 vehicles in the United States that may be impacted by the 3G sunset.

Court-Ordered Electronic Monitoring Devices

Alcohol Monitoring Systems, Inc. (AMS), a U.S.-based manufacturer of electronic monitoring devices and offender monitoring services to the criminal justice system, noted that the monitoring industry is collectively tracking a quarter of a million offenders at any given time. AMS noted some devices are dependent on 3G services, and that the COVID-19 pandemic, along with global chip shortages, delayed upgrade plans. The North Dakota Attorney General echoed AMS' concerns.

Manufacturers of Medical Alert Devices

Telit, a manufacturer of connected devices, such as medical devices, stated that as of May 2019, “more than 80 million devices still use 3G networks in North America.” AARP notes that while AICC “has attempted to implement a stopgap technology called CellBounce to assist with the transition to 3G services ... it is not sufficient for use with PERS and does not meet commercial fire code standards.”

Rural Wireless Providers

The Rural Wireless Association (RWA) wrote in support of the AICC petition and extension of 3G services, expressing concern that customers were experiencing degradation in service even before the decommissioning was complete. It conducted a survey of its members—small and regional wireless providers—and reported degradation in services in many areas. The RWA requested extension of services for all three providers until December 31, 2022, to allow smaller wireless carriers more time to transition and to test services for their customers (e.g., elderly, farmers, ranchers).

Mobile Virtual Network Operators (MVNO)

In its guidance to consumers, the FCC noted carriers such as Cricket, Boost, Straight Talk, and several Lifeline mobile service providers that use AT&T's, Verizon's, and T-Mobile's networks—known as MVNOs—may be affected.

Consumer Groups

According to Public Knowledge, research released in December 2019 “indicates that 15%-20% of wireless users are still primarily or entirely reliant on 3G for wireless service.” In some instances, the research notes, 3G users may have 4G devices, but do not use them often because they do not have 4G service in their area.

Efforts to Transition Consumers and Devices

In October 2021, the FCC issued guidance to consumers, notifying them about potential impacts to devices and services, and advising them to work with their providers to obtain an upgraded phone. Some providers have offered customers new 4G or 5G phones; others have not. Many local public safety offices redistributed the FCC guidance to alert residents that 3G phones would be inactive and unable to dial critical services, including 9-1-1.

Since the filing, some manufacturers have made progress. AICC reported that at the end of 2020, close to 6 million customers nationwide still needed upgrades; in 2022,

industry officials report the number is closer to 1.5 million to 2 million customers. Medical alert suppliers are informing users that devices may stop working at any time, as AT&T is already decommissioning towers. On January 11, 2022, Consumer Reports stated that carmakers have upgraded many cars; however, in some cars, upgrades are not possible—leaving millions of cars unable to automatically contact first responders after a crash.

FCC Authorities

Federal law (47 U.S.C §214) and the FCC's implementing regulations (47 C.F.R. Part 63) prevent telephone companies from abruptly discontinuing, reducing, or impairing wireline telecommunications service without proper notice. The FCC has forbore from applying Section 214 rules to wireless services.

AICC argued the FCC has the authority to direct AT&T to delay its 3G network decommissioning, since the action would promote safety of life and property, a key FCC function described in Section 1 of the Communications Act of 1934, as amended (47 U.S.C. §151). Further, the AICC argues the FCC has authority over AT&T as a “common carrier,” subject to FCC regulations aimed at ensuring just and reasonable terms of services (e.g., reasonable pricing rates, nondiscriminatory practices).

AT&T acknowledges it provides common carrier services in the form of mobile service to customers, and has assisted them with the transition. However, AT&T asserts that enterprise Internet of Things devices—home alarm systems, medical devices—are not common carrier services and thus are exempt from FCC common carrier regulation.

Public Knowledge agreed that current FCC rules do not require mobile providers to obtain permission to shut down their networks (47 U.S.C. §214(c)). But it argued that this does not mean the FCC has relinquished its authority to act; it has authority over common carrier network operators pursuant to 47 U.S.C. §201(b), which prohibits any unjust or unreasonable practice, and gives the FCC broad regulatory authority to prescribe such rules and regulations as may be necessary and in the public interest. Public Knowledge urged the FCC to exercise its regulatory authority to ensure a safe and orderly transition, to compel stakeholders to provide the FCC with detailed information on the impact of the shutdown, and to protect consumers from loss of vital services.

Congressional Considerations

Congress may consider short- and long-term actions concerning decommissioning. Short-term options could include encouraging the FCC to facilitate coordination among stakeholders and establish a process to identify and address any loss of vital services for consumers. In the long term, Congress could direct the FCC to collect data on challenges and best practices during the 3G decommissioning and use the data to improve future transitions, or to establish formal processes and timelines to guide future transitions.

Jill C. Gallagher, Analyst in Telecommunications Policy

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.