Connected devices have huge security holes

July 29 2014

An iPhone and iPad app that enables iPhone and iPad to function as a remote controller for home electronics such as TV, is seen on January 25, 2012 in San Francisco, California

The surge of Web-connected devices—TVs, refrigerators, thermostats, door locks and more—has opened up huge opportunities for cyberattacks because of weak security, researchers said Tuesday.

A study by the Hewlett-Packard security unit Fortify found 70 percent of the most commonly used "Internet of Things" devices contain

vulnerabilities, including inadequate passwords or encryption, or lax access restrictions.

"While the Internet of Things will connect and unify countless objects and systems, it also presents a significant challenge in fending off the adversary given the expanded attack surface," said Mike Armistead, vice president and general manager for Fortify's enterprise security.

"With the continued adoption of connected devices, it is more important than ever to build security into these products from the beginning to disrupt the adversary and avoid exposing consumers to serious threats."

The study comes amid recent security warnings about hacking of medical devices, cars, televisions and even toilets that have an Internet connection.

The researcher scanned the most popular devices and their cloud components and found on average 25 vulnerabilities per device. These products included TVs, webcams, home thermostats, remote power outlets, sprinkler controllers, hubs for controlling multiple devices, door locks, home alarms, scales and garage door openers.

The study said eight of 10 devices tests leaked private information that could include the user's name, email address, home address, date of birth, credit card or health information.

Most of the devices lacked passwords, making it easier for hackers or others to gain access while some included simple default passwords such as "1234."

Some 70 percent of the devices analyzed failed to use encryption for communicating with the Internet and local network, another weakness that makes for easy outside access.

HP said that while demand for these devices is surging, security has failed to keep pace, and this "opens the doors for security threats" from a variety of sources.

The study said some estimates indicate as many as 26 billion devices will be connected to the Internet by 2020.

"Fortunately, there's still time to secure devices before consumers are at risk," the report said.

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Citation: Connected devices have huge security holes (2014, July 29) retrieved 17 April 2024 from https://phys.org/news/2014-07-devices-huge-holes.html