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Tony Shaffer, president of the London Center for Policy Research, in his office on August 8, 2019. (Otabius Williams/NTD)

VIEWPOINTS

Digital Vote Counting Systems Are Vulnerable to Manipulation, Says Former Intelligence Operative



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Digital vote-counting systems, which are still in use in some states, can be penetrated and manipulated by both foreign threats and domestic bad actors, according to Tony Shaffer, a former senior intelligence officer at the Department of Defense.

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“The Chinese, Iranians, and North Koreans all have digital capabilities that can be focused on manipulating systems,” Shaffer said in an interview with The Epoch Times for the “American Thought Leaders” program.

And even just “the perception of elections being compromised will create such chaos that an adversary could benefit from that,” Shaffer said, based on the two-year-long controversy generated by the Russia collusion narrative.

Shaffer is currently president of the London Center for Policy Research and adviser to the National Defense Election Coalition, a nonpartisan organization working to prevent voting technology from cyber manipulation.

In the early 2000s, many states implemented new digital vote-counting systems to eliminate the shortfalls of the punch-card system. In the 2000 Bush–Gore [election](#), some voters failed to fully remove chads from their punch cards, resulting in “hanging chads” that were not registered. As a result, in 2002, Congress passed the Help America Vote Act, which created a \$4 billion fund for states to upgrade their voting machines, which meant, in almost every case, new digital machines.

But the problem, Shaffer said, was that “in those days, people did not understand the inherent vulnerabilities to digital systems—that if you have access to it, you can manipulate it.”

Malicious software could easily be introduced to alter people’s votes, and even more so now, when many machines are more than a decade old and desperately in need of security upgrades. In 2016, 14 states used paperless machines, which often meant there was no paper trail that could be recounted to correct for possible manipulation.

J. Alex Halderman, a professor of computer science and engineering at the University of Michigan, has shown that he can penetrate digital systems and change votes in real time.

Some have argued that digital systems aren’t vulnerable because they’re air-gapped, meaning they’re isolated from other networks. But Shaffer disagrees. “I can tell you professionally, we spent a lot of time and resources finding out a way to penetrate foreign systems which are not on the internet. And we did it very successfully.”

So, could individuals or groups domestically also try to manipulate the vote-counting system?

“Absolutely,” Shaffer said. “Technology is ambivalent to the nation, the user, or the individual. It doesn’t matter. Technology’s zeros and ones don’t care if you’re a Democrat or Republican.”

The solution, Shaffer says, is to return to a paper ballot system, in which voters would mark a dot on a ballot with a pen or pencil. It would be read by an optical reader and counted by an analog machine, locally, before being sent to a secure central system. Although the machine count could still be manipulated, the hand-marked ballots could be audited and recounted to verify the electronic tally.

Almost one-third of states still use paperless voting machines to some degree, according to the Election Assistance Commission's 2018 Election Administration and Voting Survey report, which was published in June. Some states still allow voters to cast a ballot through the internet or by email.

In Europe, countries such as the United Kingdom, the Netherlands, and Germany use paper ballots.

In addition to implementing paper ballots, Shaffer also is calling for more auditing. Currently, only 22 states, plus the District of Columbia, have voter-verifiable paper records that are required to be audited, according to the Brennan Center for Justice.

The National Defense Election Coalition has focused its efforts on swing states. While Wisconsin, Michigan, and Minnesota have already converted to the paper ballot system, South Carolina, Georgia, Texas, and Florida all have some form of a digital system that's vulnerable to hacking, Shaffer said.

While Congress has set funds aside for each state to update its election system, the allotment is based on population, which means states such as California get a massive chunk, while Pennsylvania—although eager to convert to the paper ballot system—will need far more funds than they are currently allotted to fully convert to the new system, Shaffer said.

It remains to be seen whether all swing states will be able to complete the conversion, which is backed by security experts, and Shaffer says there isn't much time left. He says that unless states get the funds they need in the next six months, they won't have enough time to acquire the new machines, conduct tests, and do training.

"The idea simply is you, as an individual, should have confidence that your vote will be counted as cast, and it will be sustained as cast, and will not be lost, and it will count towards who you believe you cast that vote for," Shaffer said. "[If] there's a dispute about the number of votes, it should be available to be recounted or accounted for."

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