Internet voting still faces hurdles in US

May 24 2012, by Rob Lever

A US citizen deposits his authorization card into a bin after casting his vote in an electronic voting machine in Miami, Florida in November 2006. Pressure is building to make Internet voting widely available in the United States and elsewhere, even though technical experts say casting ballots online is far from secure.

Shop online. Bank online. Why not vote online?

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In the 2012 US elections, more than two dozen states will accept some form of electronic or faxed ballots, mostly from military or overseas voters, according to the Verified Voting Foundation.

But there is a growing expectation that online voting will expand further.

"The number one question I'm asked is when we will get to vote on the Internet," Matt Masterson, Ohio's deputy election administrator, told a Washington forum this month.

"When you are doing everything else on the Internet and your comfort level is high, people expect to do that... You can adopt a child online, you can buy a house online without ever seeing it."

But computer security specialists say any system can be hacked or manipulated, and that unlike shopping and banking, the problem cannot be fixed by giving the customer a refund.

"You have computer systems such as those of Google, the Pentagon and Facebook, which have all fallen victim to intrusion," said J. Alex Halderman, a computer scientist at the University of Michigan.

Halderman, who gained notoriety by hacking into a test of an online voting system in the US capital Washington in 2010 -- forcing the system to be scrapped -- said the technology is not yet secure enough.

"It's going to be decades, if ever, before we are going to be able to vote online securely," he told the forum at George Washington University's Cyber Security Policy and Research Institute.

Some other countries are forging ahead on Internet voting.

French citizens living abroad will for the first time this year be able to vote in a parliamentary election over the Internet, an experiment that could be extended to other elections if successful.

In Estonia, an early adopter, a record 25 percent of voters cast Internet

ballots in 2011.

But Halderman, who has consulted with European governments and studied other attempts at online voting, said: "I don't believe any of them are secure."

In 2010 Halderman and his students accepted a challenge from the local government and were able to penetrate the Washington voting network, change all the votes and prompt the system to play the University of Michigan fight song.

A woman reads information on the Verified Voting Federation website in October 2010, in Washington,DC. Pressure is building to make Internet voting widely available in the United States and elsewhere, even though technical experts say casting ballots online is far from secure

Masterson said election officials are grappling with how to make voting more accessible and looking at the costs of the technology. Internet voting from that perspective makes some sense, he said.

Masterson said online voting can also help boost participation and address the issue of voters who cannot get to a polling station.

"It kills an election official to find out you can't get a ballot back," he said. "These people are being disenfranchised."

But Halderman counters that US elections provide a tempting target for hackers, nation-states and others who might want to destabilize or disrupt the US political system.

"If everyone voted online today, I think the probability of substantial fraud would be 100 percent," he said.

Susan Dzieduszycka-Suinat, of the Overseas Vote Foundation, works to make ballots more accessible, but remains uneasy with online voting.

"It's horrible to say this," she said.

"I come out of the software industry and push automation and technology for streamlining voting processes all day long, but right now, with the security issues that exist, there is no way I could advocate for Internet voting."

GWU computer scientist Michael Clarkson said it's not yet clear if online voting can be extended to national elections, where the risks of intrusion are high.

"After 30 years of research, we don't yet know how to do that in a way that scales to national elections, but we continue to make progress toward the goal," he said.

The National Institute of Standards and Technology, an arm of the Commerce Department, said this month its research had "concluded that Internet voting systems cannot currently be audited with a comparable level of confidence in the audit results as those for polling place systems."

Additionally, malware on voters' personal computers "poses a serious threat that could compromise the secrecy or integrity of voters' ballots," NIST said.

Richard Soudriette, head of the Colorado-based Center of Diplomacy and Democracy and a consultant on election issues, said he believes the technical and security problems of online voting have largely been resolved.

"Over the past 10 years Internet voting firms have developed encryption and cryptography software tools that make voting much more secure," he said.

"I believe that within a decade most developed countries will conduct national elections via Internet."

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