

this, Dzieduszycka-Suinat said, and the National Institute of Standards and Technology (NIST) agrees.

Ballots could be distributed securely by telephone, fax, e-mail and Web-based services using existing technology and safeguards, NIST concluded in a <u>study</u>, titled "A Threat Analysis of UOCAVA Voting Systems," released last year.

"Voter registration and requests for a blank ballot by the UOCAVA voter can be reliably facilitated and expedited by the use of any of the electronic transmission options," the study says. "The associated threats can be mitigated through the use of procedural and technical security controls and do not pose significant risks to the integrity of elections."

However, electronically casting a ballot remains a challenge that current systems probably are not up to handling securely.

"The return of voted ballots poses threats that are more serious and challenging than the threats to delivery of blank ballots and registration and ballot request," the report says. "In particular, election officials must be able to ascertain that an electronicallyreturned voted ballot has come from a registered voter and that it has not been changed in transit. Because of this and other securityrelated issues, the threats to the return of voted ballots by e-mail and web are difficult to overcome."

A number of federal Web-based voting pilot programs and experiments have been tried but shelved without significant success. A number of local initiatives, such as the Okaloosa (Fla.) Distance Balloting Project, experimented on a small scale with online voting technology in the 2008 election.

Yasinsac did not advocate any particular technology, but said that a number of cryptographic schemes are being developed to allow secure online voting.

"The tools are there," he said. "The states need the legislation to make it happen."

Electronic voting technology has faced growing resistance in recent years because of concerns about the security of systems being used in many precincts. "It's a flash point," Yasinsac said. "It's an emotional issue." But when compared to the limitations of current absentee voting processes, electronic voting might not be a bad deal. "Voting by mail is subject to denial of service attacks," he said.

The foundation recommended pilot programs to help develop and work the bugs out of online and other electronic voting technology, as well as using lessons learned in three election cycles to update UOCAVA. It also recommended harmonizing state laws on overseas voting to make it easier for voters to register and to request and receive absentee ballots. A Uniform Law Commission has been established by the National Defense Committee to draft model legislation for this effort.

