Association for Computing Machinery (ACM)
ACM US Public Policy Council (USACM)

usacm.acm.org
facebook.com/usacm
twitter.com/usacm

October 9, 2014

USACM Statement on Technology's Critical Role in Securing Modern Voting Systems

Below is a statement from Juan Gilbert of the USACM Voting Committee, on how computing expertise can contribute critical elements to securing modern voting systems.

"The integrity, security, and usability of voting technologies for public elections are fundamental to stable democracies throughout the world in this digital age. USACM recommends acceptance of seven principles of modern voting systems that are designed to safeguard the mechanisms and devices on which public elections rely.

"USACM experts from the computing community have identified a variety of risks and vulnerabilities in many computer-based electronic voting (e-voting systems) stemming from poor design, inferior software engineering processes, mediocre protective measures, and insufficient comprehensive testing. In addition, technology has unique capabilities that can improve voting access for traditionally disenfranchised constituencies such as disabled and military voters.

"To achieve the objective of protecting the accuracy and impartiality of the public voting process, USACM recommends adoption of the following principles:

- **Reliability:** Minimize the chances of failures and ensure the success of holding elections for which citizens trust results, whether or not they supported the outcome.
- **Responsiveness:** Ensure that voters can register, vote, and be notified of results within the time limits required by the system.
- **Security:** Prevent the insertion of users or votes into the system, the removal of votes, or the determination of vote content by unauthorized personnel.
- **Privacy:** Protect the identities and votes of system users.
- **Auditing:** Allow ballots to be recounted accurately and without revealing voters' individual choices.
- **Accessibility:** Ensure that voting systems, including voting technologies, are accessible and usable for every citizen throughout the voting process.
- **Usability:** Ensure validated design of paper and electronic ballots so users can confidently record their intent.

"To comply with these principles, USACM recommends that all computer-based electronic voting systems implement the following: embody careful engineering, strong safeguards, and rigorous testing in both their design and operation; enable each voter to inspect a physical (e.g. paper) record to verify that his or her vote has been accurately cast, and to serve as an independent check on the results produced and stored by the system; and make stored records permanent to enable an accurate recount of the vote."

Juan Gilbert chairs the USACM Voting Committee. He holds the Andrew Banks Family Preeminence Endowed Chair and is the Associate Chair of Research in the Computer & Information Science & Engineering Department at the University of Florida.

More on USACM electronic voting policy at: http://usacm.acm.org/evoting/

ACM US Public Policy Council (USACM)
1828 L Street NW, Suite 800
Washington, DC 20036

Tel: +1-212-626-0541
Fax: +1-202-667-1066

acmpo@acm.org
usacm.acm.org

ABOUT ACM and USACM

With more than 100,000 members, ACM (Association for Computing Machinery) is the world's largest educational and scientific computing society, uniting computing educators, researchers and professionals to inspire dialogue, share resources and address the field's challenges. The ACM U.S. Public Policy Council (USACM) serves as the focal point for ACM's interaction with U.S. government organizations, the computing community, and the U.S. public in all matters of U.S. public policy related to information technology.

For more information contact:
Virginia Gold
212-626-0505
vgold@acm.org