

KINGSVILLE COUNCIL

APRIL 10, 2017

VOTING METHODS

There are three primary types of electronic voting, namely machine counting, kiosk voting and remote online voting.

- Machine counting refers to when a machine counts the ballots cast.
- Kiosk voting allows voters to cast ballots at computer kiosks within polling stations or dispersed in other public locations such as community centres and libraries.
- Remote online voting allows voters to vote from personal devices from any location (home, work, etc.).

“INTERNET VOTING IS MUCH MORE DANGEROUS THAN OTHER FORMS OF ELECTRONIC VOTING BECAUSE OF THE POSSIBILITY THAT ANYONE ON EARTH CAN ATTACK AN INTERNET ELECTION FROM A REMOTE POSITION OF SAFETY, AND WITH THE POSSIBILITY OF CHANGING THE OUTCOME WITHOUT EVER BEING DISCOVERED.”

Dr. David Jefferson, internationally recognized expert on voting systems and election technology

SPECIAL ELECTORAL REFORM COMMITTEE'S OBSERVATIONS

The Committee acknowledges that many Canadians are open to the idea of online voting as a way of making voting more accessible. However, both supporters and detractors of online voting agree that the secrecy, security, and integrity of the ballot and the federal electoral process are fundamental. The Committee heard significant testimony (and received submissions), particularly from experts in technology, that the secrecy and integrity of an online ballot cannot be guaranteed to a sufficient degree to warrant widespread implementation in federal elections. The Committee agrees.

SECURITY BREACHES COULD JEOPARDIZE THE INTEGRITY OF THE VOTING PROCESS AND LEAD TO COMPROMISED ELECTION RESULTS. A NUMBER OF PROFESSIONALS FROM THE INFORMATION TECHNOLOGY (IT) INDUSTRY APPEARED BEFORE THE COMMITTEE EXPRESSED SERIOUS CONCERN OVER THE IMPLEMENTATION OF ONLINE VOTING. FURTHERMORE, THE VAST MAJORITY OF CANADIANS WHO COMPLETED THE COMMITTEE'S E-CONSULTATION NOTED THAT THEY ARE VERY CONCERNED (51.1% OF RESPONDENTS) OR CONCERNED (17.7% OF RESPONDENTS) ABOUT THE RELIABILITY AND SECURITY OF ONLINE VOTING.

SECURITY

- ▶ Vote Selling and Coercion
- ▶ Phishing (misdirect voters to misleading/malicious websites)
- ▶ Automation bias (lack of understanding of web security technology e.g.: not noticing when green padlock icon is missing, clicking through security warnings)
- ▶ Denial of Service (flooding service causing delays)
- ▶ Client-side Malware/Spyware (could alter a/o surveil ballot selections)
- ▶ Network Attacks (can access or alter voter preferences)
- ▶ Server Penetrations (internet-facing server reachable from anywhere in the world e.g. ransomware, email/password dumps, IP theft are becoming increasingly common across all organizational sectors)
- ▶ Insider Influence: Election officials, vendors, technicians etc. viewing or modifying ballot selections on the server
- ▶ State-level Actors: Undetectably changes election result, e.g. voter registry data; not certain if such an attack would ever even be detected.

EVIDENCE FROM AN EXPERT

Computer Scientist

Past president of the Association for
Computing Machinery

Advisor to the U.S. Election Assistance
Commission

Founder and former Chair of USACM, the
ACM U.S. Public Policy Committee

Co-author of book on electronic voting
titled *Broken Ballots*



Dr. Barbara Simons

THAT'S ONE OF THE TERRIFYING THINGS OF INTERNET VOTING. YOU COULD HAVE MALWARE, ELECTION-RIGGING MALWARE, ON THE VOTER'S MACHINE WHICH COULD CHANGE THE VOTE BEFORE IT GOES OUT OVER THE INTERNET... IT COULD CHANGE WHAT GOES OUT AND THE VOTER WOULD NEVER KNOW.

Dr. Barbara Simons

IT DOES A DISSERVICE TO VOTERS WITH DISABILITIES, TO FIRST NATIONS, TO ANYBODY, TO PROVIDE THEM WITH A TOOL THAT IS FUNDAMENTALLY INSECURE. WE OWE IT TO THEM WHEN WE PROVIDE THEM WITH ALTERNATIVES TO MAKE SURE THOSE ALTERNATIVES ARE SECURE.

Dr. Barbara Simons

CARLOS SOSA OF THE COUNCIL OF CANADIANS WITH DISABILITIES ADDED THAT ALTHOUGH ONLINE VOTING COULD HELP REDUCE BARRIERS FOR INDIVIDUALS WITH DISABILITIES, IT SHOULD NOT REPLACE THE PAPER BALLOT.

I THINK THERE ARE ACCEPTABLE USES FOR ONLINE VOTING FOR ELECTIONS THAT DON'T MATTER MUCH. FOR EXAMPLE, FOR PROM QUEEN, I DON'T CARE. I THINK IT DEPENDS ON HOW IMPORTANT YOU THINK THE ELECTION IS AND HOW MUCH OF A RISK YOU WANT TO TAKE... IF THE ELECTION DOESN'T MATTER, THEN WHO CARES IF IT IS RISKY OR NOT?

Dr. Barbara Simons

I THINK THAT A REFERENDUM MAY BE FINE FOR CERTAIN ISSUES, BUT WHEN IT'S A HEAVILY TECHNOLOGICAL ISSUE LIKE INTERNET VOTING, YOU REALLY NEED TO LISTEN TO THE EXPERTS.

Dr. Barbara Simons

What is good about our system is that we have a little piece of paper and a little pencil, we mark an X and we put the paper in the box, so it can be counted and examined.

I have a concern about electronic voting. The fact that the person voting would not be alone in a booth concerns me. We could have vote-buying, negative influence, fear, and so on.

Gabriel Ste-Marie - Bloc Quebecois
- Joliette

I THINK WHEN YOU TALK ABOUT THE PERSON NOT BEING ALONE WITH INTERNET VOTING, THAT'S AN ISSUE FOR ANY KIND OF REMOTE VOTING. IT'S THE SAME FOR VOTING BY MAIL... YOU HAVE TO WORRY ABOUT VOTER COERCION AND VOTE BUYING AND SELLING... REMOTE VOTING SHOULD BE HELD TO A MINIMUM. THERE ARE PEOPLE WHO HAVE TO DO IT BECAUSE THEY ARE NOT WELL, OR THEY ARE AWAY AND THEY HAVE TO VOTE REMOTELY, BUT GENERALLY SPEAKING, IT SHOULDN'T BE MADE AVAILABLE TO EVERYBODY.

Dr. Barbara Simons

PEOPLE RUNNING PILOTS ARE LIKELY TO DECLARE SUCCESS, IN SPITE OF ANY PROBLEMS THAT CROP UP. HOWEVER IT IS DANGEROUS TO DRAW CONCLUSIONS FROM WHAT APPEARS TO BE A SUCCESSFUL INTERNET VOTING PILOT. IF THE ELECTION IS INSIGNIFICANT, THERE IS LITTLE TO NO MOTIVATION TO SABOTAGE THE ELECTION

Douglas Jones and Barbara Simons, authors of Broken Ballots: Will Your Vote Count

While Election Administrators are always trying to find ways to make voting convenient, there is ample evidence to suspect that internet voting is insecure and risky.

Donna Winborn Elections
Coordinator City of Vaughan, A
Review of Internet Voting 2014

“IF THERE IS EVEN A SMALL CHANCE THAT INTERNET VOTING MIGHT RESULT IN OUR ELECTIONS BEING HACKED, IT DOESN'T MATTER HOW MANY PEOPLE WANT IT. IF INTERNET VOTING PUTS OUR ELECTIONS AT RISK—AND IT DOES—WE MUST REJECT IT UNTIL SUCH TIME AS IT CAN BE PROVEN SECURE.”

—Dr Barbara Simons