

ELECTRONIC VOTING OVERVIEW: SPEECH TO
THE MASSACHUSETTS MODERATORS ASSOCIATION
ON OCTOBER 21, 2011

by C. Peter R. Gossels

Ned (Perry), thank you for your generous introduction.

For those who don't know, Wayland seceded from Sudbury in 1780. It has a population of 14,000 +/-, 8,500 registered voters and an open town meeting.

How many of you heard my presentation about electronic voting at last year's Annual Meeting held at Old Sturbridge Village?

In preparation for the big day, I had appointed an Electronic Voting Implementation Subcommittee (ELVIS) consisting of a number of IT specialists, which had devoted nearly an entire year to make sure that the electronic wireless voting system that Options Technology Interactive (OTI) had offered the Town at its own expense would work and that it would be secure from hackers by avoiding any connection to the internet, by blinding the system to the number and content of the article being voted on and by creating a real time audit mechanism that would signal to the operators of the system when and if an electronic attack has been detected. In such an event, the Moderator would simply return to the traditional system of counting the vote.

The ELVIS Committee also produced a comprehensive program to educate and prepare the public for electronic voting, including the following: The Committee produced a film strip showing how the voters would participate in the process at town

meeting, which was repeatedly broadcast over Wayland's cable channel. The public was invited to attend ELVIS Committee meetings. The Committee posted a two page article entitled "How to Vote Electronically" on Wayland's website and published articles in the local newspaper describing the process before town meeting. ELVIS also caused a lengthy illustrated essay to be published in the Warrant itself so that the voters would have the instructions they needed to vote wirelessly on their lap.

The members of ELVIS were soon confronted by a number of voters, who argued that wireless voting would endanger the health (and even the lives) of those with implanted medical devices. After much debate about the merits of their arguments, the Committee provided those, who were handicapped or were unable or unwilling to use the handsets, a special section where they were provided with paper ballots that were collected and given to the Moderator, who would add those ballots to the results on his video monitor. It turned out that only one voter took advantage of this special arrangement.

The President of OTI and a technician arrived a day before the Town Meeting to check its equipment to make sure that the battery in each of their two thousand handsets was fully charged. OTI had also hired ten local assistants to help enter the voters into the roster server.

As it continued its preparations for town meeting, the ELVIS Committee also conducted a two hour "dry run" the night before the town meeting with the OTI technicians, the Moderator and Assistant Moderator and all those who would be involved in counting the vote.

Three members of the Electronic Voting Implementation Subcommittee were

seated at a “help desk” at Town Meeting to assist voters who had difficulty understanding the process and to test and replace handsets that were reported as broken or afflicted with a low battery.

The voters were checked in against the list of registered voters by ten checkers as they entered the Gymnasium of Wayland’s Middle School on April 7, 2011. A representative from OTI stood beside each checker and gave each voter, who had been checked in, a handset, which looked and felt something like a TV remote, as he or she added the name of each voter and the barcode of each handset to a transceiver which sent it to a roster server, which was designed to limit the votes cast at town meeting to those voters whose handsets had been checked against the voting list by the checkers.

Each handset had two buttons: By pushing button one, a voter indicated that he voted yes on the motion before the meeting. By pushing button #2, the voter indicated a wish to vote no. Each handset had a small window which showed whether the handset was working and how the voter had voted. I gave each voter a window of thirty seconds to vote and/or to change his or her vote until I announced that the window was closed. Each voter’s last vote was the vote that counted. We had also placed a light near the Moderator to indicate that the voting window was open. When the light was out, the handset would no longer transmit a vote.

At the beginning of our meeting, I conducted three test votes on such questions as to whether the Red Sox would win the pennant and whether people liked the idea of electronic voting. As the light near the Moderator’s podium was extinguished to indicate that the voting window was closed, each vote traveled electronically to a transceiver from which it was transmitted to the roster server to check whether the holder of the handset had been checked in; then on to the voting PC, which added all the aye and no votes,

translated the votes into percentages and instantaneously transmitted the results to a video monitor on the Moderator's podium, which allowed me to announce the results of the vote without using my tellers to help me count the vote. The system we used was programmed so that the voters could not be identified during or even after the vote.

When I asked the voters whether the Red Sox would make the playoffs this year, however, we experienced our first technical difficulty forcing me to take a voice vote, which proved that Wayland's voters are sometimes wrong, because they voted by a goodly margin that the Red Sox would make the playoffs.

The electronic votes that followed were taken without much difficulties, proving, I suppose, that our electronic voting system was programmed to reject erroneous predictions from the voters.

* * *

"That is all very interesting," you say, "but did it work and what did you learn after disposing of seven articles, including Wayland's 2012 Omnibus Budget after taking 37 votes over the course of two nights".

The short answer is that our experiment with electronic voting worked very well: People enjoyed using the handsets, which they preferred to standing and being counted by tellers. They appreciated the speed with which the Moderator was able to declare each vote and especially the fact that their vote was private. Based on statistics compiled by the ELVIS Committee, the sixty-three seconds needed for each electronic vote exceed the time needed for votes taken by voice vote or even by a standing vote counted by the Moderator, but standing counted votes by tellers would have taken much

more time depending on the number of voters attending the meetings.

There were some glitches, of course, that occurred during the first session of town meeting:

1. There were "power point" crashes that introduced unexpected delays in starting several votes during the first evening.
2. Twenty handsets failed with "not connected" or "low battery" indications.
3. The check-in process, which was terminated while people were voting,, caused a backup in the check-in area.
4. Transferring the roster of voters from the check-in stations to the electronic voting system took too long.
5. There were also manual errors at one of the check-in stations, which caused several handsets issued there to read "revote".

A number of these "glitches" were corrected before the second session of town meeting:

1. Power point crashes were eliminated by disabling the auto recovery system.
2. OTI replaced 35 batteries in the handsets before the second section session of town meeting.

One of the things we worried about before the Annual Meeting was that a number of people might take a handset home. It turned out that every handset was returned on both evenings.

In view of the public support that was generated by our experiment with electronic voting, I expect that the new ELVIS Committee that was just appointed by Dennis Berry, our newly elected Moderator, will be talking to OTI and other companies

that are prepared to supply us with an electronic voting system, invite bids and see if the Town will appropriate the money to implement an electronic voting system in the future.

Questions?