Preliminary report on the performance of the Diebold "blended" or "dual" system

Introduction

October 24, 2005 — Two members of Florida Fair Elections Coalition (FFEC), Kitty Garber and I, traveled to Flagler County in September to support Flagler’s lone voter activist, Deborah Susswein, in observing the closing of the municipal primary election held for the city of Palm Coast on September 13, 2005. Deborah and I stayed at the elections office while Kitty observed the poll closing at one polling place and then joined us at the elections office.

We believe this election was the first time the Diebold "blended" or "dual" voting system was used in an election in Florida. "Blended system" is the term used by Diebold and the state of Florida to refer to a dual voting system that combines optical scanners and Diebold TSX touch-screens in each polling place. One touch-screen is placed with the optical scanner(s) in each precinct for the stated purpose of serving disabled voters who cannot mark a paper ballot.
A Diebold internal memo from January 2003 condemns the blended system:

"My unsolicited two cents is that this is a crazy way to run an election. Expecting jurisdictions to train for and administer two systems is just nuts. It is the worst of a paper-based election with the worst of an electronic election."

Ken Clark, Diebold Senior Systems Engineer

Diebold hopes that problems with the blended system will eventually convince their optical scanner customers to purchase all touch-screens, as evidenced by the following Diebold internal memo from Mark Earley in response to Ken Clark's email above:

"Hopefully, the ADA requirements and the concerns you point out about maintaining two systems will lead them down the path to full TS [touch-screen]."

Identified problems and issues

Advantage of paper ballots negated

The use of a DRE with the optical scanners eliminates the reason for having paper ballots to begin with, which is the ability to recount the paper ballots in case of machine failure, memory card failure, programming or operator errors, or other malfunctions. Paper ballots provide the capability to conduct a meaningful manual audit, as required by the Help America Vote Act. In a blended-system election, only a portion of the voters use paper ballots, thus preventing a complete recount. In other words, blended-system elections are no longer verifiable since no meaningful recount can be conducted if only some of the voters use paper ballots. Why have an optical scan system at all if only some of the ballots are recountable? The next step would be to go to 100% touch-screens. This is exactly the conclusion that Diebold hopes its customers will reach, as evidenced by the Diebold internal memo above and other Diebold memos.

Unnecessary complexity

Dual systems introduce a level of complexity that is guaranteed to increase the potential for problems, confusion, and additional costs. With a blended system there are two separate systems to run (optical scanners plus touch-screen), two poll tapes from each polling place, two sets of results from each polling place, two sets of data to upload from each polling place, two different audit logs and other computer logs, two separate databases, and double the training of poll-workers required to run two different systems. (The Diebold internal memo above actually refers to "triple training," which may mean training on the op-scan, training on the touch-screen, and training on the blending of the system as a whole).

Table 1: Description of Primary Election — City of Palm Coast (Flagler County), Florida, September 13, 2005

<table>
<thead>
<tr>
<th>Voting System:</th>
<th>Blended system consisting of Diebold AccuVote-OS 1.94w (optical scanner) with Diebold TSx touch-screen.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>City of Palm Coast, Flagler County, Florida</td>
</tr>
<tr>
<td>Date of Election:</td>
<td>September 13, 2005 (plus 2 weeks of Early Voting)</td>
</tr>
<tr>
<td>Type:</td>
<td>Primary Election</td>
</tr>
<tr>
<td>Race:</td>
<td>One city council position for the city of Palm Coast</td>
</tr>
<tr>
<td>Candidates (4):</td>
<td>Pete Crabill, Joe Cunnane, Bill Lewis, Alan C. Peterson</td>
</tr>
<tr>
<td>Precincts (21):</td>
<td>06, 07, 08, 09, 13, 14, 16, 17, 19, 21, 22, 23, 24, 25, 26, 28, 29, 31, 32, 33, 34</td>
</tr>
</tbody>
</table>
Registered Voters, city of Palm Coast: 35,237

| Votes cast: | 3,989 |
| Votes on Optical Scanners: | 3,930 (98.5%) |
| Votes on DREs: | 59 (49 at precincts plus 10 during Early Voting) |

The city of Palm Coast municipal primary election was very small, comprised of 21 precincts (see Table 1). However, even in such a small election, having two sets of results from each polling-place was very confusing. For 21 precincts there were 42 uploads (one upload for the optical scanner(s) and one upload for the touch-screen in each of the 21 precincts), 42 sets of results, 42 poll tapes, 2 separate audit logs, etc. In a large election, this doubling of everything will be a nightmare for poll workers, election officials, observers and for the canvassing board that is supposed to certify the election. With blended systems planned for the majority of Florida's 67 counties, it is conceivable that a large (federal) election could result in a complete meltdown.

**Loss of private vote**

If only a few voters use the DRE, then those voters take the chance that the privacy of their ballots will be compromised.

Voters' privacy was, in fact, compromised in the city of Palm Coast election. In five different precincts, only one voter used the touch-screen. The candidate selected by each of these voters was clearly shown on the TSx printout at the end of election day, as follows.

**Table 2: Diebold TSx votes in Palm Coast election are not secret**

| Precinct #13 | one touch-screen vote for Crabill |
| Precinct #14 | three touch-screen votes for Lewis |
| Precinct #19 | one touch-screen vote for Lewis |
| Precinct #21 | one touch-screen vote for Lewis |
| Precinct #26 | one touch-screen vote for Lewis |
| Precinct #34 | one touch-screen vote for Crabill |

These people lost their right, under the Florida Constitution (and under the Help America Vote Act as of January 1, 2006), to have a private vote. Poll workers [or watchers] could easily have noted who voted on the touch-screen and then looked at the printout at the end of the day to see how that person voted.

We don't know if the individuals who used the touch-screens were tracked in any other way, such as electronically or on the poll books when they signed in at the polling place. We hope to find that out in our public information request to the Flagler County Supervisor of Elections.

**Differential treatment**

A dual system results in differential treatment of voters and the potential for future equal protection lawsuits. Disabled voters are being asked to vote on equipment that is less secure, less reliable and less auditable than that used by other voters. Even if non-disabled voters are allowed to use the touch-screens, as
is the case in Florida, the optical-scan voters are being offered auditable, recountable paper ballots which the
touch-screen voters do not have. In addition, the protracted amount of time that it takes to cast a ballot on the
TSX means that disabled voters, including the elderly, will have to wait in long lines if more than a few people in
a precinct elect to use the touch-screen.

Accumulating precinct results

Florida law has always required that precinct votes be totaled at the precinct, meaning that one precinct
total is uploaded to the elections office. The Diebold blended system is not able to do this. Instead, each
precinct must upload two totals (one total from the op-scan and one total from the touch-screen).

The two uploads from each precinct are added together at the GEMS central tabulator (creating another
set of potential problems and opportunity for error or fraud).

We must also note, for anyone looking at the Diebold blended system in other states, that Diebold originally
intended to combine the op-scan and touch-screen totals at the precinct using a device called an "optical scan
accumulator adaptor" or "OSAA." However, a Diebold source has told us that the OSAA has not yet been
invented. Despite the fact that the Optical Scan Accumulator Adaptor was "vaporware," [not the first
time Diebold has pedaled vaporware] it was included in the Flagler County contract as
"Supplemental Hardware for Precinct Use;" it is included in other Florida contracts; and it was included in the
RFP response to the state of Illinois. Most likely, it would have been included in any state where the blended
system was being proposed.

Diebold internal memos reflect the problems that Diebold was facing in attempting to accumulate precinct
results from both the op-scan and touch-screen systems:

On January 24, 2003, Karen Stubblefield-Emery, Diebold Customer Service Specialist, writes:

"I think we need to plan on most customers having both OS [optical scan] and TS [touch-screen] in
the future. Most counties will need at least one OS to count Absentee ballots, and at least one TS to meet
ADA requirements. This is what we did in Georgia. I don't think this will go away any time soon."

Mark Earley responds:

"True, and no problem there. The problems come in with both systems in the precincts."

And Ken Clark pipes up again:

"One OS [optical scan] for absentees is a little different. Absentees are necessary evil. With the
forthcoming high speed scanner based optical scan central count, it should even become a little less
painful that it is right now. I am only talking about mixed count methods in the polls. That way lies
madness."

Illegal state certification?

It is noteworthy that the Florida Division of Elections certified the Diebold blended system on March 29,
2005. One would think that to certify a "blended" system, the Division of Elections would have had to know how
Diebold was planning to "blend" the totals of the optical scanners and touch-screen systems. However, three
months after certification, in June 2005, Diebold was handing out an information sheet on the Optical Scan
Accumulator Adaptor at the state Supervisors of Elections conference held in Pasco County, Florida, and
stating that the OSAA would be used to "accumulate" precinct results at the precincts.

The one big problem with this is that the Optical Scan Accumulator Adaptor (OSAA) has not been invented
yet, according to a reliable Diebold source. Diebold has not figured out a way to combine the results of the
optical scanner and the TSX in the precinct.

The "vaporware" Optical Scan Accumulator Adaptor, according to the Diebold handout, is supposed to
allow a poll-worker to take the memory card out of the op-scan at the end of the election, place the memory
card in the OSAA, place the OSAA in PCMCIA slot of the TSX, and "accumulate" the op-scan votes with the
votes on the TSX. Then all votes would be transmitted or hand-carried to the central elections office. Again,
Diebold has not figured out how to do this!!!!!

We believe that Florida certified the blended system based on promises from Diebold that it could soon
provide the OSAA to accumulate totals at the precinct as required by Florida law. Since Diebold has not been
able to produce the Optical Scan Accumulator Adaptor, the Florida Division of Elections has conveniently re-interpreted state law. Paul Craft, the Chief of the Bureau of Voting System Certification, told me three weeks ago in a telephone call that "state law has always been interpreted to mean that results must be accumulated at the precinct, but we now realize that is not the case."

It is also noteworthy that Florida only tested the Diebold TSx (touch-screen) for one week and then, the next day, on March 29, 2005, issued a certification for the "blended" system.

• There was no specific testing conducted for a blended system.
• There is no user's manual for a blended system.
• There are no specific instructions provided to elections personnel on the special considerations of a blended system.
• There is not any paperwork regarding discussion about a blended system.

Although we specifically requested any documentation on the blended system, we were told there was none. It appears that the Florida Bureau of Voting Systems Certification did not consider the ramifications of a blended system beyond the operation of two separate side-by-side systems (the optical scanners and the touchscreens), nor that any specific testing was done to examine the "blending" of these two systems.

In an odd twist, Paul Craft, Chief of the Florida Bureau of Voting Systems Certification (who also serves on the NASED approval committee for NASED qualification of voting systems) sent me two emails, one dated June 30 and the second dated July 1, 2005. At that time, I had never met nor spoken with Mr. Craft. He added my name to a list of recipients of these two emails that included all the Supervisors of Elections in Florida who have Diebold systems. Why did he send me these two emails? I believe it was an attempt to distance himself from the Optical Scan Accumulator Adaptor debacle. I have never, before or since, received an email from Mr. Craft.

The emails from Craft contradict each other. In the first email, Craft states that the OSAA has been shipped to two Supervisors of Elections. In the second email, he corrects the first, stating that the OSAA wasn't shipped because it's not being manufactured yet. (In fact, it has not yet been invented, according to a reliable Diebold source.) This is a device that is included in every Diebold contract in Florida and Craft didn't know that it isn't being manufactured yet?

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**Expense**

A Diebold internal memo from Senior Systems Engineer Ken Clark, dated January 27 2003, talks about the high cost to accommodate disabled voters with the blended system:

"If they install 100 touch screen units for 150 voters, at $2500 a pop, that works out to over $1600 per voter. Can I do the interview with Mike Wallace?"

Ken Clark's colleague, Donald Biszmaier, Support Services Specialist for Diebold, responds:

"They [the disabled] are a powerful group. The cost in Jefferson County Ky was $10,000.00 plus per voter. This figure did not include the triple cost of testing."

And a third Diebold employee, Jeff Hintz, also responds to Clark's email:

"You can have the interview, I want the commission."

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**Additional layers of complication**

**Tabulation of results**

As stated above, Florida law requires (or has always been interpreted to require) that there be one total for each precinct and that machines at each polling place be added together to produce one total before the result is uploaded to the central tabulator, not two separate totals as actually happened in Flagler County.
Unsatisfactory/incomplete election report and other problems

• **Missing Categories:** The election report issued election evening had no categories for Overvotes, Undervotes, or Blank Ballots. (There were categories listed for Unscanned Ballots and Provisional Ballots).

• **Unclear Reporting:** As the results were uploaded, there was no way for an observer to tell which Precinct numbers were reporting. Instead of reporting by precinct number, the results simply said 1/21, 2/21, 3/21, 4/21, etc. There was no category for absentee votes or early votes, which suddenly appeared as unexplained additions to the vote total. Categories for absentee votes and early votes did appear on the final written report, but were unexplained and uncategorized as the votes appeared on the computer screen available for public viewing.

• **Misstatement of Fact:** The 20th precinct to upload its results had problems. It was only able to upload its touch-screen results, not its optical scanner results. However, the report showed the results had fully uploaded (it stated that 20/21 precincts had reported). This creates another level of confusion. In a large election, it might be possible to overlook the uploading of the second half of the results.

• **No report of optical scanner votes and touch-screen votes:** The only way to find out how many votes were cast on the optical scanners, not its optical scanner results. However, the report showed the results had fully uploaded (it stated that 20/21 precincts had reported). This creates another level of confusion. In a large election, it might be possible to overlook the uploading of the second half of the results.

Inadequate poll worker training and other precinct-level problems

This paragraph is not related to the blended system, but I include it as it shows why there should be a poll watcher in every polling place. A precinct was chosen at random because there were only 3 of us monitoring this election. FFEC research director Kitty Garber observed closing at Precinct 32. She found the following problems:

1. Poll worker broke lock for bag containing ballots;
2. Poll workers had problems transmitting results — said phone line was "shaky";
3. Polling clerk said she did not know where the polling tapes went; and
4. Results were not posted on door as required by law.

In general, the poll workers seemed inexperienced and poorly trained.

Blended system summary

*We agree with Diebold Senior Systems Engineer, Ken Clark: This is a crazy way to run an election.*

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