

Chapter 11

Black Box Voting

Ballot Tampering in the 21st Century

by Bev Harris

with

David Allen

Edited by

Lex Alexander

Cover Art by

Brad Guigar

SOME RIGHTS RESERVED



This work is licensed under a Creative Commons License with the following additional provisos:

- 1) You must place the text: *"If you would like to support the author and publisher of this work, please go to www.blackboxvoting.com/support.html"* on the same page as the download, or on the first or last page on which the PNG images appear.
- 2) The notice: *"This book is available for purchase in paperback from Plan Nine Publishing, www.plan9.org."* Must appear on the download page or on the first or last page of the PNG images.

If you have any questions about this license or posting our work to your own web site, call Plan Nine Publishing at 336.454.7766

11

Election Procedures and Physical Security

These solve all the problems. (Really?)

San Diego County and the states of Maryland, Arizona and Ohio planned to buy new voting machines, and Diebold planned to sell the machines to them. All told, these contracts were worth over a quarter of a billion dollars. By August 2003, the following information was available to purchasing agents who represent the taxpayers:

- 40,000 Diebold voting system files were left on an unsecured Web site.
- 22,000 uncertified last-minute program modifications were put on voting machines in Georgia by Diebold Election Systems.
- Georgia machines malfunctioned so badly that it called the state's certification into question.
- The GEMS program did not prevent users from bypassing passwords, changing audit logs and overwriting vote tallies.
- Four computer scientists from two major universities exposed “stunning, stunning security flaws” in the touch-screen program.
- And by September, a report by Scientific Applications International Corp. (SAIC) had identified “328 security flaws, 26 of them critical” in the Diebold touch-screen voting system.

Your tax dollars are at risk. Therefore, your representatives (choose one):

- a) Decided to hold off on purchasing voting machines until a thorough independent review could be performed on every manufacturer
- b) Decided to buy voting machines from a manufacturer other than Diebold
- c) Formed a task force to study the issue
- d) Announced they were going ahead with the purchase anyway

Correct answer:

d) Decided to go ahead and buy the machines anyway.

I'll put some qualifiers on that: After the Hopkins/Rice report came out, Maryland Governor Robert Ehrlich commissioned a study by SAIC before deciding to purchase. He only announced he was going ahead *after* the SAIC report identified 328 security flaws, 26 of them critical. Ohio Secretary of State J. Kenneth Blackwell decided to hold off on his August 15 announcement of the approved vendors for his state's voting system, partly because of pending SAIC study but also because Sequoia Voting Systems was suing to get on the purchase list. A few weeks later, he put Diebold back on the approved vendor list. San Diego County, after a quick fly-in from Diebold representatives, said it was going ahead with the purchase but later said it might want to think about it. The state of Arizona, without offering an explanation, quietly announced that it would buy Diebold's voting machines.

Election officials hurried forward to explain to the media that all this criticism was just so much hooey; they trusted the machines and those computer scientists didn't know what they were talking about. Diebold announced, after the SAIC report gave it a failing grade, that the report (yes, the same one) said its voting system gave voters "an unprecedented level of security."

The state of California decided to go ahead with its October 8 gubernatorial recall election, even though Diebold touch screens would be used in four counties (10 more counties would use Diebold optical scan machines) — and all 14 counties would use Diebold's GEMS county tabulation program.

Such confidence must be supported by a powerful factual underpinning, but so far I haven't been able to find it. Must we privatize the factual underpinning? Could someone please share the secret decoder ring with us so we, too, can see that these machines absolutely can be trusted?

Election officials give Diebold's encryption scheme a clean bill of health, but I'm not sure many of them can spell the word "algorithm," much less explain it. Why are we allowing election officials to pronounce an opinion on computer programming anyway?

I have yet to see any of Diebold's programmers answer a single question about these software flaws. Public-relations team, yes. Diebold software engineers? Total silence. That's OK, I suppose. Might as well do it under oath.

I, for one, would like to hear from technical writer Nel Finberg or principal engineer Ken Clark, who wrote the following e-mails two years before *Scoop Media* published my article about altering the audit log in Access:

Subject: alteration of Audit Log in Access
From: Nel Finberg
Date: Tue, 16 Oct 2001

"Jennifer Price at Metamor (about to be Ciber) [Independent Testing Authority –ITA– certifier] has indicated that **she can access the GEMS Access database and alter the Audit log without entering a password**. What is the position of our development staff on this issue? Can we justify this? Or should this be anathema?"

Subject: RE: alteration of Audit Log in Access
From: Ken Clark
Date: Thu, 18 Oct 2001
Importance: Normal

"Its a tough question, and it has a lot to do with perception. Of course everyone knows perception is reality.

"Right now **you can open GEMS' .mdb file with MS-Access, and alter its contents. That includes the audit log**. This isn't anything new. In VTS, you can open the database with progress and do the same. The same would go for anyone else's system using whatever database they are using. Hard drives are read-write entities. You can change their contents.

"Now, where the perception comes in is that its right now very **easy** to change the contents. **Double click the .mdb file**. Even technical wizards at Metamor (or Ciber, or whatever) can figure that one out.

"It is possible to put a secret password on the .mdb file to prevent Metamor from opening it with Access. I've threatened to put a password on the .mdb before when dealers/customers/support have done stupid things with the GEMS database structure using Access. **Being able to end-run the database has admittedly got people out of a bind**

though. Jane (I think it was Jane) did some fancy footwork on the .mdb file in Gaston recently. I know our dealers do it. King County is famous for it. That's why we've never put a password on the file before.

"Note however that even if we put a password on the file, it doesn't really prove much. Someone has to know the password, else how would GEMS open it. So this technically brings us back to square one: the audit log is modifiable by that person at least (read, me). Back to perception though, **if you don't bring this up you might skate through Metamor.**

"There might be some clever crypto techniques to make it even harder to change the log (for me, they guy with the password that is). We're talking big changes here though, and at the moment largely theoretical ones. I'd doubt that any of our competitors are that clever.

"By the way, all of this is why Texas gets its sh*t in a knot over the log printer. Log printers are not read-write, so you don't have the problem. Of course if I were Texas I would be more worried about modifications to our electronic ballots than to our electron logs, but that is another story I guess.

"Bottom line on Metamor is to find out what it is going to take to make them happy. You can try the old standard of the NT password gains access to the operating system, and that after that point all bets are off. You have to trust the person with the NT password at least. This is all about Florida, and we have had VTS certified in Florida under the status quo for nearly ten years.

"I sense a loosing [*sic*] battle here though. The changes to put a password on the .mdb file are not trivial and probably not even backward compatible, but we'll do it if that is what it is going to take. " — Ken

Subject: RE: alteration of Audit Log in Access

From: Nel Finberg

Date: Wed, 17 Oct 2001

"Thanks for the response, Ken. For now Metamor accepts the requirement to restrict the server password to authorized staff in the jurisdiction, and that **it should be the**

responsibility of the jurisdiction to restrict knowledge of this password. So no action is necessary in this matter, at this time.” — Nel

Resolution of the problem revealed in the “alteration of the audit log” leans heavily on local election officials to set up security around access to the GEMS computer. Setting aside the references to doing “end runs” around the voting system, do we really know whether the jurisdictions are able to restrict access to authorized staff? Here are three examples that make me wonder:

1. San Luis Obispo County, California: A vote database popped up on the Diebold Web site during the March, 2002 primary. It was tallied hours before the polls closed. Election officials can’t explain how it got there.

2. Marin County, California: A cell phone was used to transfer a vote database. This is uncertified and insecure and apparently was never approved by anyone.

3. Volusia County, Florida: In November 2000, an unexplained replacement vote database overwrote the original votes, leading TV networks to erroneously call the presidential election for George W. Bush.

SLO County Mystery Tally

A vote tabulation saved at 3:31 p.m., five hours before poll closing for the March 5, 2002, San Luis Obispo County primary (“SLO County” to the locals) was found on the Diebold FTP site. SLO County Clerk-Recorder Julie Rodewald says that she doesn’t know who put that file on the FTP site, and only two people have access to the GEMS computer — the Deputy Registrar of Voters and Rodewald herself.

The SLO file contains votes from a real election. It also contains a problem for Diebold, because in California it is illegal to tabulate votes before the polls close. According to California law, counties are allowed to begin counting mail-in and absentee ballots prior to election day, but results may not be posted before the polls close at 8 p.m.

This file contains an audit log which documents GEMS activities step by step for months leading up to the election, stopping precisely at 3:31 pm on March 5, 2002.

The votes in the file correspond with the final vote tally, which can be found on the San Luis Obispo County Web site for that election — but only about 40 percent of the votes had come in by 3:31 pm.

Was this file used for training? No one trains poll workers during an election. And why would you use real votes and a real file, during the middle of an election, for training?

Was this file part of a “Logic and Accuracy test?” It was date and time-stamped at 3:31 pm on election day. L&A tests are done a few days before the election.

Did company officials set the date forward for a Logic and Accuracy test? The audit log shows that this was an election, not a test.

Maybe the clock was off? It was for a different time zone? When it said 3:31 it was 8:31? Checking the date and clock is part of the election procedures, marked “important.” But more than that, after the polls closed there were more votes.

How do the votes correspond to the final vote tally? The vote distribution parallels that of the final tally.

The SLO vote file was assigned a password and placed on a Diebold-owned Web site. The password was: “Sophia.” Sophia Lee is a Diebold project manager.

Was Sophia Lee there that day? Yes, according to Rodewald. “An employee from Diebold was at the county Elections Office on the day of the primary to answer questions and help with any problems that might come up.

Did Sophia put that file on the Diebold Web site? “She’s saying she did not post (the data) on election day,” Rodewald said. “She

“I live and VOTE in SLO County. I find this disturbing. Is there anyway we can get them to count the paper ballots, meaning the ones we put in the scanning machine, to verify the result?”

— “Clever”

said it's something she never would have done.”

Did Rodewald give Sophia access to the GEMS computer and the vote database? Rodewald says that neither she nor any of her staff put that file on the Diebold Web site, and she does not know how it got there. “Only the deputy (registrar of voters) and myself have access to the computer on election day or any day,” Rodewald said.

Do we have a problem? Apparently.

1) Vote tallies were available for SLO County before the polling places closed. “We don’t release those results. In fact, we don’t even print results. We don’t know what the results are until 8 p.m.,” Rodewald said.

2) Security of the GEMS central count computer was breached when its midstream vote tabulation file was placed on an unprotected Web site. Yet we have been told that physical security is in place, limiting GEMS access to two county elections officials, placing the machine in a locked room that no one can enter and making sure it is not hooked up to the Internet or to the county network.

- The file is large and takes time to upload to an FTP site, even with a fast Internet connection. We have also been told that GEMS does not connect to the Internet. Somehow this large GEMS file from the midst of the SLO County primary election made its way from the “secure, inaccessible, locked-in-a-room, not-connected computer” onto the Diebold company Web site.

- This appears to have happened on election day, since the file is tagged to “sophia” and Sophia is a Diebold employee who was present at the San Luis Obispo County elections office on election day. Diebold denies that the results were posted on election day. “Diebold is trying to track down when the information was posted,” said Rodewald. (If Diebold is trying to find out when it was posted, why does Diebold state that it was not posted on a particular day?)

Now let’s look at the plausible explanation for how the votes got into the file: Rodewald says that the votes in the SLO file as of 3:31 pm in the afternoon on primary election day, March 5, 2002, were absentee votes, which were counted on March 1, 2, 3 and 4. She says they are not votes cast at the polling place. Diebold said it was a back-up file. As the absentee and mail-in ballots are tabu-

lated, the county periodically “backs up” that data onto a computer disc, in case the main computer were to crash.

Accounting Minutiae

- In the SLO database, absentee votes are tagged with “1” and votes cast at the polling place are tagged with “0.”
- This means all of the votes, if they are absentee votes, should be marked with a “1.” But the first 15,000 votes in the database are all tagged with “0,” which would indicate that they come from a polling place. The only way votes can get from a polling place into the GEMS program during the middle of an election is to have an E.T. moment and phone home. We don’t want our voting machines to connect with their master before all the votes are cast.
- Enter strange accounting that gives me a headache: Rodewald says that there are precincts which have both polling places and absentee voters, but there are also about a hundred precincts where people cannot go to any polling place, but can only mail in a ballot to vote. These precincts are called “mail ballot” precincts. Mailed in ballots from the “mail ballot” precincts are called “polling place” ballots. (Correct accounting would call them “mail ballots” or “absentee ballots”— it would not call them “polling place” ballots.)
- Rodewald explained to me that you can tell the “mail ballot” precincts apart from the polling place ballots because they do not start with the letters “CON.”
- So therefore, the votes marked “0” would be the “mail ballot” ones, right? Well, no. She then explained to me that no “mail ballots” were in this database, which she concedes is an authentic SLO County vote file.

Now this may sound like minutiae, but in accounting, precision is correct and confusion is incorrect. Because there are votes marked “0” in the database, it contains either votes from the polling place or “mail ballot” votes, both of which Rodewald told me are not in this vote database.

If Rodewald did not authorize placement of the SLO County vote database on the Diebold Web site, who did?

*Diebold
representatives now
admit it was a “huge
mistake” to have the
data on a site that
could be accessed by
the public.*

Why should Diebold employees be privy to midstream election tabulations? What was this file used for? Who put the file on Diebold's Web site?

Why should Diebold take any election vote file and keep it on a company Web site? (One California citizen, Jim March, posted the San Luis Obispo votes on his own Web site. Diebold demanded that he remove it, claiming the company had copyrighted San Luis Obispo's vote file.)

How did Diebold get access to this file? What mechanism was used to get this file off the GEMS computer? A CD burner? A zip drive?

Whether or not anything unscrupulous is involved with this file, it seems that unauthorized access was allowed into the system.

Transferring votes by cell phone

On October 8, 2003, I spoke with the California Elections Division to find out why, when citizens in California went looking for the polling place totals, which were supposed to be posted on the door at each voting location, they found nothing posted at all. I spoke with a "Mark Carrol," who said, "I have your answers." He told me that vote tallies don't have to be posted.

But, they do:

CA Code 19370 States... At the close of polls... at the precinct... One copy of the statement of return of votes cast for each machine shall be posted upon the outside wall of the precinct for all to see. "The return of votes includes each candidate's name and their vote totals at the precinct. During certification of voting machines, the Voting Systems Panels requires evidence that the procedures of each vendor include this process... "

I asked Mr. Carrol about a set of memos indicating that Diebold has used cell phones to transfer vote results.

"That's not certified!" he said indignantly (and doubtfully).

Yup. I know.

"Not in California, they haven't," he said, after a stunned pause.

Yes, they have. In Marin and Tulare counties, according to the Diebold memos that no one wants you to see. He was silent for a long time, and I told him where to find the memos.

An investigative writer named Tom Flocco (www.tomflocco.com) saw the same memos as I did. In his blog he wrote:

“Diebold sales representative Steve Knecht wrote on April 12, 2000 that ‘We are using cell phones in Tulare and Marin,’ while also introducing a rather curious, unfamiliar electronic election official called a ‘rover:’ ‘Rovers are the ones who are given the cell phone with the modem for end of night totals upload, not the precinct worker, at least in these two locations.’

“Guy Lancaster, Diebold software programmer, wrote on April 12, 2000, regarding cell phones: ‘I know of no written instructions,’ leading us to wonder if there were rules and traceable documentation, or why cell phones were being used in the first place ...

“[Diebold sales representative Juan Rivera wrote] ‘Also, we did not have to dial the phone manually; the AccuVote did that just as if it was connected to the wall jack.’ ... So now we have private cell-phones, lap-top computers—and rovers, ostensibly uncertified by any government authority — but no one has reported or documented how or if this ‘add-on’ equipment or the individual rovers are registered, tested, certified, identified — or secured by state or federal authorities prior to an election...

“On April 17, 2000, Guy Lancaster wrote more about the Diebold AccuVote internal modem: ‘We use what’s called ‘blind dialing’ (ATX0) which means that it’ll dial with nothing plugged into it. Thus if the AV won’t work without this Dial Tone Emulator, then it’s doing something in addition to providing a dial tone.’ But Lancaster didn’t get into what other actions he thought the software was affecting.”

Dr. David Dill’s* webmaster confirms cell phone data transfer

Dr. David Dill has been fortunate, with his “VerifiedVoting.org” Web site, to have a committed volunteer webmaster named Greg Dinger.

Dinger arranged for a friend to assist as an official pollworker and posted several interesting observations at a site set up by BlackBoxVoting.com for monitoring election reports (www.BBVreport.org — go there and tell us your own experiences).

* Dr. Dill is a professor of computer science at Stanford University.

“Ok, I have some news,” Dinger writes. “For starters, this election has taught us some lessons. We need to make sure that we have our own people in every precinct possible — along with exit-poll staff and observers at the close of polls. They need to be trained in advance, they should be provided written materials that document what to watch for, and essentially equipped to be our eyes and ears.

“I just finished a lengthy phone call with a friend who worked at my precinct ... Basically, the people there (however well-intentioned) were ill-prepared for the task, were unaware that this e-voting controversy even exists ...

“At the end of the day, the “head” of the scanner was removed from the base. It was connected to some sort of cellphone for transmitting the results. Shocked, I asked her to repeat this: it appears that this phone was NOT connected, nor was the scanner connected to the landline that I observed in the polling place earlier in the day. It was wireless...

“During the transmission process, errors occurred. The phone apparently reported that a ballot was “stuck” in the reader. The precinct folks confirmed that this was not the case. There was a phone call placed to some “support number” which turned out to be a bad number. The lead precinct worker happened to have another phone number, reached some unidentified (to my friend) person, and eventually resolved the issue after a lengthy delay...”

“But she was VERY clear that this was a cordless phone (some sort of folding model) that was attached to the scanner at the end of the day.” Dinger clarified that, according to his information, the cell phone was connected only during end-of-day processing. It worked like this:

“The precinct leader was provided a cordless phone of some sort. At the end of the day, she pulled the scanner out of the base and moved it to a table. Then the phone was attached (as I understand it) with a short cable.

“I do not believe the unit was built into the scanner, nor was it connected during the day.”

I have some questions about transmitting votes by cell phone.

Why? Why do it? Can we not plug in a simple modem any more?

A well-financed operation can very easily penetrate the voting system with the right equipment and the correct information. Cell phones connect to the access tower with the strongest signal. It is relatively easy (but not inexpensive) to set up a rogue access tower. If you do, this cell phone will automatically communicate with you. You would then connect the call to your own GEMS server, load the real results, modify them and then call up the real GEMS server to upload your results.

Volusia County, Florida:

If Al Gore had publicly conceded on election night, would there have been a Florida recount? Would the “Help America Vote Act” ever have been passed, triggering the rush to touch-screen machines?

We’ll never know, but thanks to an internal CBS report and an e-mail written by the vice president of Research and Development at Diebold Election Systems, we now know that the unexplained replacement of a set of votes on a Diebold optical scan machine in Volusia County triggered a premature private concession from Al Gore to George W. Bush and resulted in TV networks' erroneously calling the election for Bush instead of deeming it too close to call. The final "official" tally showed Gore losing by 527 votes, though the hand recount stopped by the Supreme Court later gave the election to Gore.

Volusia County did a hand recount and straightened out the mistake. It is interesting to note that in the future there may be no paper ballots to recount, thus such a mistake would go uncorrected.

* * * * *

Fox News Network, 29 November 2000: Brit Hume, host:

“And now the latest from the ‘Political Grapevine.’

“It seems a broken computer modem and a faulty memory card were culprits in the erroneous election-night call of George W. Bush as the Florida winner. A broken modem prevented some of Volusia County, Florida’s results from being transmitted directly to headquarters.

“When the county tried to read the results themselves and relay them to headquarters, computers with a bad memory card caused it to appear for a time

that Al Gore had lost more than 16,000 votes, which seemed to put George W. Bush up by 50,000 — at that stage in the night, an insurmountable margin. Every network saw that as a basis for calling the state for Mr. Bush...”

Two questions:

1) Was it a “bad memory card” that produced the bogus 16,000-vote spread? Or is there another explanation?

2) Is it true that these 16,000 mystery votes caused the networks to call the election for Bush?

What are the symptoms of a bad memory card?

A memory card, as you’ll recall, is like a floppy disk. If you have worked with computers for any length of time, you know that a disk can go bad. When it does, which of the following is most likely:

a) In the Word document you saved on the disk, the “bad disk” replaces some of the words you typed with different ones. If I was typing this document on a bad disk, for example, the “bad disk” might read this phrase correctly the first time: “In the Word document you saved...” but the second time, read it like this: “In the pot-bellied pig that you saved...” In your experience, is this likely?

b) In an Excel spreadsheet that you saved on the “bad disk,” might it read a column of numbers correctly the first time: “1005, 2109, 3000, 450...” but the second time, replace one of the numbers like this: “1005, 2109, – 16,022, 3000, 450...”?

c) Or is it more likely that the “bad disk” will do one of the following things: Fail to read the file at all, crash your computer, give you an error message, or make weird humming and whirring noises while your computer attempts unsuccessfully to read the disk?

For most of us, the answer is c). But according to news reports, the official explanation from Global Election Systems (now Diebold Election Systems) was that a “bad memory card” reported votes correctly in every race except the presidential race, where it mysteriously changed Gore’s total to *negative* 16,022.

This kind of explanation gets my nose twitching. Really? Is that what a “bad memory card” does? If so, how many “bad memory cards” have been out there changing vote totals, unbeknownst to voters?

If the symptom of a corrupted memory card was arbitrary vote-changing, as explained to the media in Volusia County, we’d be in real trouble — according to Diebold sales representative Steve Knecht in an internal memo dated March 24, 2000, “Cards were corrupted throughout California at a rate exceeding our normal 1 in 100 that we’ve been seeing. Marin is now up to 8 cards corrupted out of 114.” He reports a number of problems that must have had election officials pulling their hair out:

“This issue [faulty memory cards], along with AccuVotes [AccuVote is a brand name for Diebold Election Systems optical scan machines] needing to be turned off and on repeatedly during the day to reset them, or AccuVotes just dying in the middle of the day due to Readers failing has gotten to epidemic proportions. Fresno, Marin, Tulare, and Humboldt all replaced about 10% of their units in the field on election day for a variety of reasons ... These corruptions and failures are no longer going to be seen as isolated and will begin impacting our reference selling ability and confidence in the product.”

If the memory card failure has, at times, “gotten to epidemic proportions,” we’d better hope that the symptoms certainly do *not* include randomly changing the vote totals.

According to an exchange between principal engineer Ken Clark and Donna Daloisio, who was systems administrator for Supervisor of Elections Gertrude Walker in St. Lucie County, Florida the following symptoms typify a corrupt memory card:

When beginning to upload results the following message appears: “PLEASE RE-INSERT MEMORY CARD.”

If you take the memory card out and put it back in, you are likely to see this error: “PCT DATA ERROR OK TO CONTINUE?”

If you say yes, this message appears again: “PLEASE RE-INSERT MEMORY CARD.”

When Daloisio described these symptoms, principal engineer Ken Clark shot back this diagnosis: “Garden variety corrupt memory card.”

Apparently the story the media got about Volusia County’s sudden vote discrepancy (because of a “faulty memory card”) isn’t quite the whole story.

On January 17, 2001, Volusia County employee Lana Hires asked the technical staff at Global Election Systems for help. She was being put on the hot seat over Al Gore’s strange tally of negative 16,022 votes.

“I need some answers!” she wrote. “Our department is being audited by the County. I have been waiting for someone to give me an explanation as to why Precinct 216 gave Al Gore a minus 16022 when it was uploaded. Will someone please explain this so that I have the information to give the auditor instead of standing here 'looking dumb'... Any explanations [*sic*] you all can give me will be greatly appreciated.”

Global Election Systems' John McLaurin tossed the question to Sophia Lee and Talbot Iredale. “Sophia and Tab may be able to shed some light here, keeping in mind that the boogie man may be me [*sic*] reading our mail*. Do we know how this could occur?”

Talbot Iredale, senior vice president for research and development, has been with the elections company since 1991. He explains: “Only the presidential totals were incorrect.” Iredale then hits us with this bombshell:

“The problem precinct had two memory [*sic*] cards uploaded. The second one is the one I believe caused the problem. They were uploaded on the same port approx. 1 hour apart. As far as I know there should only have been one memory card uploaded. I asked you to check this out when the problem first occurred but have not heard back as to whether this is true.”

Where did this second card come from? Iredale then gives a cursory nod to the official explanation given to the media:

“Corrupt memory card. This is the most likely explanation [*sic*] for the problem but since I know nothing about the ‘second’ memory card I have no ability to confirm the probability of this.”

* That’s a damn curious remark!

Again, WHERE DID THE SECOND CARD COME FROM?

"Invalid read from good memory card. This is unlikely since the candidates results for the race are not all read at the same time and the corruption was limited to a single race. There is a possibility that a section of the memory card was bad but since I do not know anything more about the 'second' memory card I cannot validate this."

There's that pesky second card again. He then suggests that perhaps the second card might have been — well — another way to say this would be "election tampering," I guess:

"Invalid memory card (i.e. one that should not have been uploaded). There is always the possibility that the 'second memory card' or 'second upload' came from an un-authorized source."

So, who is investigating this unauthorized source?

"If this problem is to be properly answered we need to determine where the 'second' memory card is or whether it even exists."

But it turns out that this second card certainly did exist, at least at one time:

"I do know that there were two uploads from two different memory cards (copy 0 (master) and copy 3)."

There were two uploads from two different cards.

- The votes were uploaded on the same port approximately 1 hour apart.
- Only one memory card was supposed to have been uploaded.
- "Copy 0" uploaded some votes.
- "Copy 3" replaced the votes from "Copy 0" with its own.
- Iredale believes the second one is the one that caused the problem.
- The "problem": 16,022 negative votes for Al Gore

What effect did this have on the 2000 presidential election?

We know that the "problem" was noticed and corrected. An election worker noticed Gore's votes literally falling off the tally, and the number of votes in Pre-

cinct 216 was totally out of whack. Eventually, a manual recount was done. No harm, no foul?

That depends on how you look at things. I found a report called “CBS News Coverage of Election Night 2000: Investigation, Analysis, Recommendations prepared for CBS News.”

“It would be easy to dismiss the bizarre events of Election Night 2000 as an aberration, as something that will never happen again,” the report begins. “...But, this election exposed flaws in the American voting system, imperfections mirrored in television’s coverage of the election results.”

Yes. This election exposed flaws, but the imperfections were not really quite “mirrored” in television’s coverage of the results. A more apt metaphor would be that the imperfections exposed the tip of an iceberg and then, with the HAVA bill, everyone in America decided to buy a ticket on the *Titanic*.

It is, as one of the computer scientists I’ve talked with likes to say, like “The Amazing Randi.” Don’t look there — look here! An illusion. Ridicule the dangling chads. Voter News Service blew it. Don’t worry, we caught that crazy error of negative 16,022 votes, it made no difference. We’ll give you the Help America Vote Act (HAVA) and promise \$3.8 billion (much of which may never materialize) to prevent this fiasco from ever happening again.

Look over here: Chads are bad. Look over there: Let’s vote on a black box!

Don’t look there: No one paid much attention to the optical scan machines, which, we now know from Greg Palast’s research, used different settings depending on whether you were in a minority district or an affluent suburb. White? Suburban? Set the machine to provide an error message if the ballot was overvoted, so the voter can correct it. Minority? Poor? Accidental overvotes discarded, thank you. Back that up with statistics, of course: “Too dumb to vote.”

While we fixated on a butterfly ballot, no one asked about the GEMS program that counted 30 counties in Florida, or demanded to see “card number 3” from Volusia County, or asked who made this card and how it got past all the election procedures and physical security, or whether any other counties had a card number 3.

According to the CBS report, here is a chronology of how the election was called for Bush. You decide whether card number 3 made a difference:

7:00 PM: Most Florida polls close. CBS News' best estimate, based upon exit-poll interviews, shows Gore leading Bush by 6.6%. The Decision Desk decides to wait for some actual votes [i.e., voting-machine votes] to confirm the exit-poll results.

7:40 PM: Voter News Service (VNS) projects Florida for Gore.

7:48 PM: NBC projects Florida for Gore.

7:50:11 PM: CBS projects Florida for Gore.

7:52:32 PM: VNS *calls* Florida for Gore.

8:10 PM: CBS News analysts recheck the Florida race and feel even more confident about the call for Gore, based on data available at 8:10.

9:00 PM: A member of the CBS News Decision Team notices a change in one of the Florida computations. One of the estimates, the one based solely on tabulated county votes [tabulated county votes: In the Diebold system, this is the GEMS program], is now showing a Bush lead. The team discovers problems with the data.

9:07 PM: VNS reports county-tabulated vote data from Duval County that puts Gore in the lead in the tabulated-vote estimate. (This was an error.)

9:38 PM: VNS deletes the Duval County vote from the system, sending a correction to all members. Gore's total in Florida is reduced by 40,000 votes.

10:00 PM: CBS withdraws the Florida call for Gore.

10:16 PM: VNS retracts its Florida call for Gore.

At some point between 10:16 p.m. and 1:12 a.m., Bush took the lead.

1:12 AM: Associated Press, which collects its numbers separately from VNS, shows the Bush lead dropping precipitously. VNS differs.

Correspondent Ed Bradley began telling people in the CBS studio that there were irregularities and that many Democratic votes were still coming in.

1:43AM: Bradley points out that more than 30% of the vote remains uncounted in that Dade and Broward counties, both Democratic strongholds.

1:48 AM: Bradley does the math: "Bush is ahead by 38,000 votes. And still out there, about 5 percent of the vote is still out, 270,000 votes. So that's a big chunk of votes."

Bradley seeks additional information from the AP wire and from CBS News correspondent Byron Pitts.

What has not yet been discovered is an erroneous entry from Volusia county. The initial report from Precinct 216 subtracted votes from Gore's total and added votes to Bush's total.

2:00 AM: According to VNS, Bush leads by 29,000 votes. The CBS model predicts a very narrow Bush win.

Heavily Democratic counties have not weighed in yet. Ed Bradley is following the AP reports and talking about them to others at CBS, but CBS is not using that information.

2:09 AM: VNS adds Volusia County's incorrect numbers to its tabulated vote. This 20,000-vote change in one county increases Bush's VNS lead to 51,000 votes.

2:09:32 AM: Bradley sounds an alarm, but no one pays attention: "Among the votes that aren't counted are Volusia County. Traditionally they're...one of the last counties to come in. That's an area that has 260,000 registered voters. Many of them are black and most of them are Democrat."

2:10 AM: Brevard County omits 4,000 votes for Gore (Brevard also used GES/Diebold machines), but no one notices.

Bush's lead in the VNS count includes 16,000 negative votes for Gore and unspecified other voting problems such that Bush's lead appeared to increase by 20,000 votes in Volusia (plus the 4,000 missing from Brevard).

According to the CBS News report: "These 24,000 votes would have nearly eliminated the 30,000-vote final Bush margin the CBS News Decision Desk has estimated. *There would have been no call if these errors had not been in the system.*"

2:16 AM: John Ellis, who has been hired as an analyst for Fox, relying on information gathered from conversations with his two first cousins — George W. Bush and Florida Gov. Jeb Bush — and on VNS reports, calls Florida for Bush.

Ellis says he spoke to Jeb Bush shortly after all television networks initially declared Vice President Gore the winner of Florida, just before 8 p.m. ET elec-

tion night. He spoke to George W. Bush twice during the day and many times during the evening.

2:16 AM: NBC calls Florida for Bush.

2:16 AM: The AP lead for Bush drops by 17,000 votes, to 30,000. This 17,000-vote drop, occurring in only four minutes, is a Volusia County correction. But VNS does not use the correction, and no one at CBS is listening to Ed Bradley or watching the AP wire.

2:16:17 AM: Dan Rather talks with Bradley about the large number of votes still out in Volusia County.

2:17:52 AM: CBS calls Florida for Bush.

2:20 AM: ABC calls Florida for Bush.

2:47 AM: The AP reports that Bush's lead has dropped to 13,934.

2:48 AM: VNS shows the Bush lead at 55,449.

2:51 AM: VNS corrects its Volusia error, and Bush's lead drops to 39,606.

2:52 AM: The AP reports the Bush lead down to 11,090.

2:55 AM: Palm Beach County weights in with a large number of votes, and VNS reports the Bush lead down to 9,163.

3:00 AM: Rather preps viewers for a Gore concession speech: "We haven't heard yet from either Al Gore or from the triumphant Governor Bush. We do expect to hear from them in the forthcoming minutes."

3:10–3:15 AM:** Al Gore, exhausted from having, gone 50 hours without sleep, telephones Mr. Bush to concede.

3:10 AM: CBS begins investigating the VNS numbers. It also, finally, begins watching numbers from the AP. CBS also looks at the Florida Secretary of State's Web site. The three sets of numbers don't match, but all of them indicate the race is much closer. VNS does not yet analyze this dramatic change.

3:32 AM: From 3 a.m. until now, there is much talk about the expected Gore concession speech.

3:30-3:45 AM:* Gore boards a motorcade for a 10-minute journey to War Memorial Plaza in Nashville, Tennessee to deliver a concession speech to his supporters.

3:40 AM: Bush's lead drops to 6,060 votes.

Around this time, Gore Campaign Chairman William Daley places a call to CBS News President Andrew Heyward. Daley asks whether CBS is thinking about pulling back its call for Bush. Heyward wants to know what Gore is planning to do.

According to the CBS report, "Daley says, 'I'll get right back to you,' hangs up and does not call back. There is more talk in the studio between Rather and the correspondents about the peculiarities now emerging in the Florida vote count. They discuss the AP count of the decreasing margin for Bush."

3:48 AM: "Rather says, 'Now the situation at the moment is, nobody knows for a fact who has won Florida. Far be it from me to question one of our esteemed leaders [CBS management], but somebody needs to begin explaining why Florida has now not been pulled back to the undecided category.' He goes on to say, "A senior Gore aide is quoted by Reuters as confirming that Gore has withdrawn [his] concession in the U.S. President race."

3:45-3:55 AM:* Two blocks away from the plaza, Gore field director Michael Whouley pages traveling chief of staff Michael Feldman to tell him the official Florida tally now shows Bush up by just 6,000 votes, with many ballots left to be counted. By the time the Gore motorcade reaches the plaza, according to Agence France-Presse, he is down by just under 1,000 votes.

Gore did not, then, give the speech he had planned to give.

3:57 AM: According to CBS, the Bush margin has narrowed to fewer than 2,000 votes. CBS News President Heyward, who has been watching the Bush lead evaporate and listening to Rather and Bradley discuss the Florida situation, orders that CBS News retract the call for Bush.

4:05 AM: By this time, the other networks have rescinded the Florida call for Bush.

4:10 AM: According to CBS, Bush's lead drops to 1,831 votes, which is roughly where it remains until the first recount.

4:15 AM:* Daley calls Bush campaign chairman Don Evans, although the exact of their conversation aren't made public.

4:30-4:45 AM:* Gore makes a second telephone call to Bush to retract his concession, saying that he is waiting for all the results from Florida. "They had a brief conversation which shall remain private," said Gore spokesman Douglas Hattaway.

5:05 AM:* A Florida election official announces a recount, with the two candidates separated by a few hundred votes.

According to the CBS report, "the call for Bush was based entirely on the tabulated county vote" [i.e., GEMS or equivalent programs]. "There were several data errors that were responsible for that mistake. The most egregious of the data errors has been well documented. Vote reports from Volusia County."

Four thousand votes for Gore were omitted from the county tabulation in Brevard County and in Volusia, 4,000 votes were erroneously counted for Bush and 16,022 negative were recorded for Gore.

"The mistakes ... which originated with the counties, were critical," says the report. "They incorrectly increased Bush's lead in the tabulated vote from about 27,000 to more than 51,000. Had it not been for these errors, the CBS News call for Bush at 2:17:52 AM would not have been made."

* * * *

If you strip away the partisan rancor over the 2000 election, you are left with the undeniable fact that a presidential candidate conceded the election to his opponent based on results from a second memory card (card #3) that mysteriously appears, subtracts 16,022 votes, then just as mysteriously disappears.

If this isn't disturbing enough, consider these three points:

- 1) We don't know if this was an isolated incident. It may have occurred in other locations, but in smaller, less spectacular totals.
- 2) The errors were correctable because paper ballots existed which allowed a hand recount. This will not be possible in a future devoid a paper ballots.
- 3) The fact that "negative votes" could be applied to a candidate's total, demonstrates such a fundamentally flawed software model that it calls into question the competence and integrity of the programmers, the company and the certification process itself.

Footnotes are coming.