



## 6 Who's Beholden to Whom?

Everyone thinks we got into this mess because of irregularities exposed during the Florida recount in November 2000. I disagree.

If you go back to Chapter 2 and delete all the Florida 2000 problems, you're still left with 97 out of 100 examples. This problem is not limited to Florida or the 2000 election, and it cannot be blamed on hanging chads or a butterfly ballot. The root cause of this problem is money.

Vendors and lobbyists leveraged the Florida fiasco to persuade well-meaning legislators to enact a sweeping election reform bill, the Help America Vote Act (HAVA), creating a gold rush to purchase new voting systems, under tight deadlines, using federal money. Vendors did not disclose to lawmakers that their optical-scan systems and touch screens had a history of glitches, bugs and miscounts, and because their computer code was kept secret and proprietary, even U.S. senators and representatives could not know about security flaws or learn just how broken the "certification and testing" system really is.

But I'm getting ahead of myself.

In later chapters, I'll take you inside one of our secret electronic voting systems, and you'll see just how little confidence they should inspire. By rights, we should demand an immediate moratorium on electronic voting, returning to paper ballots, hand-counted if neces-

sary, until we solve underlying problems, such as certification that doesn't work and failure to audit properly.

The Election Center, a private entity that receives little federal oversight and is cozy with vendors,<sup>1</sup> provides training for county clerks and auditors.

The county election officials who purchase these systems are persuaded by a nonstop barrage of talking points, sales presentations and "training programs" provided by vendors and that strange little entity called The Election Center. They have been told to buy now or lose government funds and get fined. Most county officials are honest folks who have not been given the option to buy safer, more secure systems. They may not even know such systems exist.

Not all county officials are well behaved, however. According to one of our sources, who made sales presentations for a voting-machine vendor mentioned in this book, it is all too common for county buyers to hint at gifts ("That's a nice laptop ...") and, sometimes, place an empty envelope on the desk hoping it will be filled.

County officials must abide by what the regulators say, but the regulators keep getting hired by the vendors.

VoteHere hired former Washington state Secretary of State Ralph Munro, who helped to usher in his protégé, Washington's current secretary of state (and avid voting-machine advocate), Sam Reed.<sup>2</sup>

Former California Secretary of State Bill Jones is now a paid consultant for Sequoia Voting Systems.<sup>3</sup> Former Florida Secretary of State Sandra Mortham was hired by ES&S. She promptly got into hot water for being a lobbyist for both the state's counties and the company that sold them their touch-screen voting machines.<sup>4</sup>

Lou Dedier, the California official responsible for recommending which voting systems to buy, took a job with ES&S.<sup>5</sup> Diebold employs Deborah Seiler, a former assistant to California Secretary of State March Fong Eu.<sup>6</sup>

The three finalists for Ohio's 2003 voting-machine recommendations happened to be the companies that hired the most lobbyists. Diebold lobbyists Mitchell Given and Jonathan Hughes formerly worked for Ohio Attorney General Jim Petro, and six ES&S lobbyists showed Ohio county elections officials with gifts.<sup>7</sup>



While we're on the subject of cashing in, take a look at the commissions these companies pay. Sequoia paid \$441,000 in a single year to John Krizka for selling voting machines to four Florida counties. Krizka sued, claiming Sequoia had stiffed him for \$1.8 million. <sup>8</sup>

Amid these commissions, hope-filled envelopes, job offers and former bosses-turned-regulatees, some election officials don't seem to welcome input from scientists like Dr. David Dill, the Stanford computer professor who wrote, "... Some of the equipment being purchased, while superficially attractive to both voters and election officials, poses unacceptable risks to election integrity — risks of which election officials and the general public are largely unaware."

Dill urged a more prudent voting system, and his "Resolution on Electronic Voting" <sup>9</sup> garnered 1,212 endorsements by technologists. No comparable group of computer scientists — in fact, no technology group at all — has embraced paperless voting.

It's not just the quantity of computer experts who endorsed this demand for a voter-verifiable audit ballot that is impressive, but the quality of their expertise. They include renowned experts such as Eugene Spafford, Professor of Computer Sciences and CERIAS Director at Purdue University, and Ronald L. Rivest, from the Massachusetts Institute of Technology; Peter Neumann, Principal Scientist for SRI International, who has studied computerized voting security for nearly two decades; Arnold B. Urken, from Stevens Institute of Technology, who founded the first national certification and testing lab for computerized voting machines; and Dr. Rebecca Mercuri, one of the most famous analysts of voting-machine technology.

But that's not all. Add Douglas W. Jones, associate professor and former chairman of the Iowa Board of Examiners for Voting Machines and Electronic Voting Systems, from the University of Iowa; Charles Van Loan, professor and chairman of the Department of Computer Science at Cornell University; and Martyn Thomas, Professor in Software Engineering at Oxford University.

One thousand two hundred and twelve *for* providing a voter-verified, tamper-resistant paper ballot, *zero* computer scientists *against*. And these are not just academics. They include industry experts from Sun Microsystems Inc., Bell Laboratories and Lucent Technologies, and General Motors.

You may wonder why I'm going on about this, and it is for this reason: After being presented with the urgent concerns of so many learned professionals, and after being offered the voter-verified paper ballot feature at no extra charge, Santa Clara County, California, purchased unauditible touch-screen voting machines anyway.

"They've created this whole UFO effect," said Jesse Durazo,<sup>10</sup> registrar of voters, who is not versed in computer science.

Durazo was not persuaded by 1,212 of the nation's top computer scientists, choosing instead to follow advice from vendors.

### A look at the regulators

State certification procedures rely on a procedure called the "Logic and Accuracy" (L&A) test. The L&A test is called a "black-box" test, whereas examining the source code is called "white-box" testing.

According to Arnold B. Urken, who founded Election Technology Laboratories, the first voting-machine testing lab, white-box testing — eyes-on examination of the source code — should be mandatory if certification is to mean anything. Urken told me that he refused to certify ES&S (then called AIS) because the company would not allow him to examine its source code.

In an L&A test, you run test ballots through the machine. If the machine counts correctly, it passes the test. Some touch screens use an automated program to simulate someone casting test votes.

You can practice with all the test ballots you want, but tampering with a program in such a way that it will pass the L&A test is as simple as hatching an egg. An "easter egg" is a tiny code embedded into the program which launches a function when triggered. When the egg receives a signal, it hatches — and the signal can be as simple as receiving a vote containing a special combination of choices.

Dr. Britain Williams, the official voting-machine examiner for the state of Georgia, described testing procedures that sound impressive.

"The law gives the Secretary of State the authority to say what systems are certified and what are not. What I do is an evaluation of the system. The FEC [Federal Election Commission] publishes standards for voting systems. We have national labs that examine for compliance with the FEC, and if they are in compliance, certification is is-



sued by NASED [the National Association of State Election Directors]. Once that's done, it's brought into the state, and I evaluate them as to whether or not the system is in compliance with Georgia rules and regulations. Then the Secretary of State takes that report, in combination with the others, and certifies it.”<sup>11</sup>

He described a procedure in which teams of people with a test script checked out each machine, testing the printer, the card reader, the serial port, the screen calibration.

I went to the ES&S Web page, which said that its voting machines were tested by Wyle Laboratories. David Elliott, Washington state's elections director, said that Wyle is a very reputable firm that tests aircraft systems.<sup>12</sup>

Sounds pretty good. Except that in Georgia, where Dr. Brit Williams oversees the testing, and Washington state, where State Elections Director and former NASED board member David Elliott is in charge, they have been using software *that was never certified at all*.

Diebold's Principal Engineer Ken Clark wrote a memo on January 14, 2002, describing his intent to avoid putting his newly modified software through California's certification process by fudging a version number. He wrote, “What good are rules if you can't bend them now and again?”<sup>13</sup>

Ahem.

But suppose for a moment that they actually do test the stuff. How bulletproof is this testing?

Both David Elliott (Washington state) and Brit Williams (Georgia) said that Wyle Laboratories tests their voting machines. But it turns out that Wyle decided to stop testing voting machine software in 1996, citing bloated code that was more than 900,000 lines long. I called Edward W. Smith at Wyle Labs, who confirmed this. Wyle only tests hardware and firmware. Can you drop it off a truck? How does it stand up to being left in the rain? Good things to know, but some of us also want to know that someone has examined the source code to make sure no one tampered with it.

Wyle says they don't test the software, but in a way, they do. Wyle tests the programs that go inside the optical-scan and the touch-screen machines. Because these programs are stored in read-only memory (ROM) or programmable ROM (PROM) chips, or flash memory, Wyle

calls the programs “firmware” — basically, this is just industry jargon for software that doesn’t reside on a hard drive.

After the program is certified, it must not be changed without re-examination, so you can imagine my surprise when I ran into these comments, written into the source-code files for Diebold Election Systems by its programmers:

*“Remove SCWinApi module till pass WYLE certification.”*

And because the version sent to Wyle for certification is supposed to be the *official* version, and the voting machines are supposed to use *only* the officially-certified version, you might wonder at this comment:

*“Merge WYLE branch into the stable branch.”*<sup>14</sup>

Why are we removing things before we send them to Wyle, and why are we merging the officially certified version back into something else? Just wondering.

A lab called Ciber, Inc. tests the voting-system software. Another lab, SysTest, is also authorized to certify software, but all the major companies seem to be certified by Ciber. The software that sits on the county server and accumulates the votes as they come in from the polling places is tested by Ciber.

I thought the certification process would involve, say, an expert in voting putting on a white lab coat, brushing away the voting-machine employees and independently, painstakingly, testing the accuracy and integrity of the software. After all, our voting system is at stake. Surely, Ciber holds the key to our confidence. I decided to give them a call but found out that the public is not allowed to ask Ciber any questions. Here are the instructions at NASED’s Web site:

*“The ITAs DO NOT and WILL NOT respond to outside inquiries about the testing process for voting systems, nor will they answer questions related to a specific manufacturer or a specific voting system from the public, the news media or jurisdictions. All such inquiries are to be directed to The Election Center...”*<sup>15</sup>

What government agency is the Election Center connected with? None: The Election Center is a private, nonprofit entity set up during the late 1980s. Who set it up? Some people in Washington, D.C., whose names are not published. Who provided its seed money? No one seems to know. Who runs the Election Center now? A man named R. Doug



Lewis, who was not elected by anyone.

What are the credentials of R. Doug Lewis? With some persistence, I located a bio for Doug Lewis,<sup>16</sup> but all it said was that he was an assistant to the president in the White House (doesn't say which president); that he ran campaigns for various important politicians (doesn't name any of them); that he headed the Democratic Party for the states of Texas and Kansas (doesn't say what years); and that he consulted for the petrochemical industry (doesn't say what company). With a little more digging, I found that he "managed affairs" for former Texas governor John Connally.

The Election Center works with the National Association of Secretaries of State (NASS), the National Association of State Election Directors (NASED) and the International Association of Clerks, Recorders, Election Officials and Treasurers (IACREOT).

When election officials want to know if these voting machines can be trusted, they ask R. Doug Lewis. I'm sure R. Doug Lewis is a terrific guy. (The feeling apparently isn't mutual; he hangs up on me when I call him.) But what I do want to know is this: What specific credentials qualify him for the critical work of overseeing the security of voting systems in the United States? Who appointed him?

I called The Election Center to ask about certification and was told that the only person who could answer my questions was R. Doug Lewis.

*Harris:* "Mr. Lewis, I understand that your organization is the one that, basically, certifies the certifiers of the voting machines, is that correct?"

*Lewis:* "Yes."

(This turns out not to be true; perhaps he misunderstood my question. The NASED ITA Technical Sub-Committee of the Voting Systems Board is a small group of people who select the certification agencies. This group does seem to work closely with R. Doug Lewis, but I am unclear as to who's in charge of whom.)

*Harris:* "Do you have anything in writing that shows that a line-by-line examination of source code was performed by either Ciber or Wyle?"

*Lewis:* "No. But that's what they do. They go line by line. They're not trying to rewrite it."

*Harris:* "Where can I get something in writing that says they look at the code line by line?"

*Lewis:* “I don’t know where you’d find that.”

*Harris:* “ ... Let me be more precise. Are you saying that Wyle and Ciber do a line-by-line check on the code, and the way it interacts with the system, to make sure that no one could have put any malicious code into the voting-machine software?”

*Lewis:* “Oh. That’s what you’re talking about. I don’t know if they do a line-by-line check to see if there’s a problem.”

*Harris:* “Who can I speak with at Ciber and Wyle?”

*Lewis:* “I don’t think anyone there could answer your questions.”

*Harris:* “Who do you speak with at those labs?”

*Lewis:* (muttered) -”Shawn S..... at Wyle — No, Shawn S..... is at Ciber ...”

*Harris:* “I couldn’t quite catch the name of the person at Ciber. Did you say Shawn S..... what was that last name?”

*Lewis:* (muttered) “Shawn Sou.....”

*Harris:* “I’m sorry, I couldn’t understand you. What is that name again?”

*Lewis:* (muttered) “Shawn South.....”

*Harris:* “How do you spell that?”

*Lewis:* (muttered very fast) “Southw....”

*Harris:* “I’m sorry, you’ll have to slow down. How do you spell that?”

*Lewis:* (quietly) “S-o-u-t-h-w-[ard?]” ( I was never able to understand him. The correct spelling of the name is Shawn Southworth.)

*Harris:* “I have one more question: Prior to taking over The Election Center, you owned a business that sold used computer parts, which ended up going out of business. Shortly after that you took over The Election Center. Did you have any other experience at all that qualified you to handle issues like the security of national elections?”

*Lewis:* “Oh, no, no, no. I’m not going to go there with you.”

*Harris:* “I have newspaper articles published shortly after your computer reselling company went out of business that refer to you as an expert in election systems. What else did you do that qualified you to take over your current position?”

*Lewis:* “My background is that I owned a computer hardware and software business. I’ve never claimed to be an expert. That’s the reason we have laboratories, nationally recognized laboratories.”



Lewis's used-computer reselling business was called Micro Trade Mart, which appears in the Texas franchise-tax database this way:

*Micro Trade Mart Inc.*

*Director:* R. Doug Lewis

*President:* R. Doug Lewis

This corporation is not in good standing as it has not satisfied all state tax requirements. Lewis ran Micro Trade Mart from 1986 through June 1993. He became Executive Director of The Election Center in 1994.

I don't know why R. Doug Lewis, after holding the position of "Assistant to the President in the White House," spent eight years selling used computers. All I really want to know is: What qualifies him to certify voting-machine certifiers, and why must everyone, including the media, talk *only* to R. Doug Lewis when they want to find out how our voting machines are tested?

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When Wyle's division in Huntsville, Alabama, stopped testing this software in 1996, that certification process went to Nichols Research, also of Huntsville, Alabama.

Shawn Southworth tested the voting- machine software for Nichols Research. But Nichols Research quit doing it, and voting-software examination went to PSInet, of Huntsville, Alabama. Shawn Southworth tested the voting machine software for PSInet. PSInet ran into financial difficulties. Voting-software certification was taken over by Metamore, in Huntsville, Alabama, where Shawn Southworth handled it. Metamore no longer does software certification for voting machines. Now it is done by Ciber, of Huntsville, Alabama. Shawn Southworth is in charge of it.

I called to talk to Shawn Southworth, but his assistant told me that she was supposed to refer all questions back to The Election Center. The only person at The Election Center who is authorized to answer questions about certification procedures is R. Doug Lewis.

I looked up Shawn Southworth on the Web. I found pictures of his motorcycles, and I found pictures of him at the beach. Though I'm sure he is eminently qualified (but we're not allowed to ask his credentials), no one has yet convinced me that Shawn Southworth should be entrusted with the sanctity of the vote-counting for all of America.



**And now for the rudest question of all**

Why should we trust anyone? Why can't we just audit the accuracy of these machines, using the paper ballots and practical procedures?

