
Defending Democracy: Passion and Practicality

We Count Conference 2006

Cleveland, Ohio

Defending democracy is a tall order. What if we discovered the key to bringing the electronic voting boondoggle to a crashing halt? What if we cracked the code and found that the simplest and most effective strategies are actually in place right under our noses? Let's talk about it and discover how we might use a concerted and targeted strategy to save the American Republic.

The EAC Voting Equipment Certification Ponzi Scheme

(and why as of Jan. 1, 2008 it is unlikely that *any* U.S. voting machines will be certifiable. Ever.)

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Ponzi Scheme: Perpetual Fraud Based on Illusory Investments

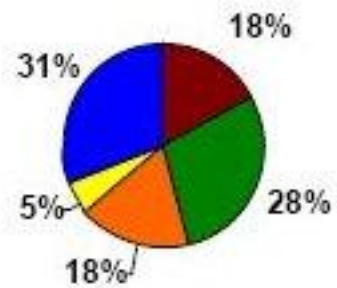
- The essence of a Ponzi Scheme is investment. The Ponzi operator typically represents that he has some sort of "system" that is either incredibly complex, or a proprietary secret, which makes it possible for him to pay incredible rates of return. - Bill E. Branscum
 - In truth, there is **nothing real** beyond the investment itself. There is **no real product**; the "profits" are **an illusion** created by the operator. Eventually the system goes bankrupt because there is nothing real to sustain it.
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What's the EAC up to?

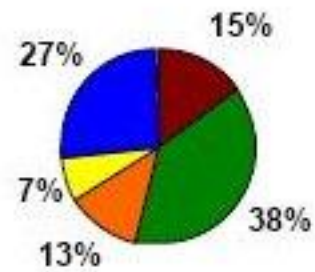
In the first two years of EAC's existence, the main focus was expeditiously completing the distribution of more than \$3 billion in HAVA funds to the states to purchase voting equipment and implement other election administration improvements. During this time, EAC also adopted the 2005 Voluntary Voting System Guidelines within the HAVA-prescribed nine month timeframe. The completion of these activities generates a new set of related priorities: 1) monitoring and auditing the use of HAVA funds; 2) making sure the VVSG keep pace with technology by updating them periodically, especially in the areas of security and usability; and 3) establishing the Federal government's first voting system certification program.

Consequently, EAC will direct more funding in FY 2007 to its audit program, the VVSG and the certification program.

FY2006



FY2007



- Distribution and Management of HAVA Funds
- Aiding in the Improvement of Voting Systems
- National Clearinghouse of Election Administration
- Guidance and Information to the States
- Administration

EAC Certification Ponzi Scheme

- After millions of taxpayer investments, even the promise of more secure voting equipment is revealed to be an illusion, yet we are expected to continue to invest.
 - ✓ **Reality check:** The very nature of voting equipment certification is illusory. It simply can't exist in the real world.
 - ✓ **Reality check:** After January 1, 2008, it is unlikely that any voting equipment on the market will be certifiable. Ever.
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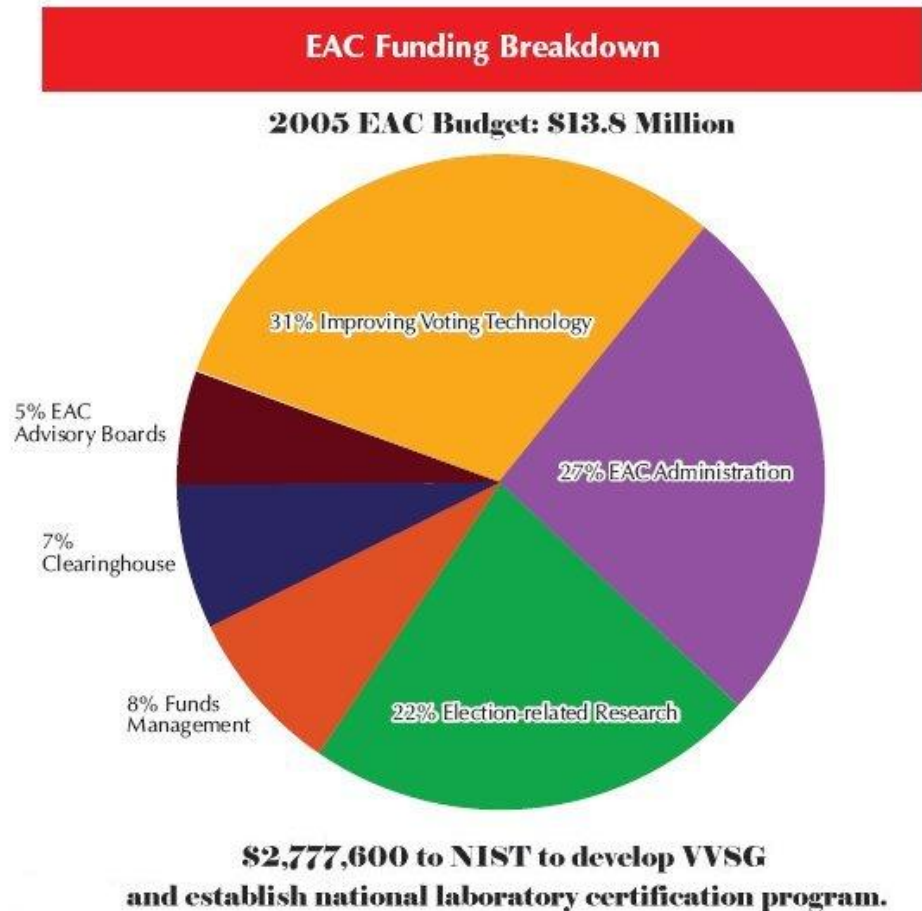
Election 2006: New Voting Equipment

- Current estimates indicate that anywhere from **33-40% of American voters** will be using **new voting equipment** when they attempt to voice their political expression in the 2006 elections.
 - American citizens have **invested millions of dollars** on the **promise** of improved security for voting equipment in the 2006 elections.
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Federal Certification of Voting Equipment

- 2002 Voting System Standards (VSS)
 - Developed and administered by NASED
 - Standards not always testable
 - “Independent” testing labs
 - 2005 Voluntary Voting System Guidelines (VVSG Versions 1 and 2)
 - Administered by Election Assistance Commission (EAC)
 - Developed by TGDC/NIST
 - Testable standards
 - NIST accredited testing labs
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Taxpayer Investment: 2005 EAC Budget



Taxpayer Investment: 2006 EAC Budget

- **COMMITTEE RECOMMENDATION:** The Committee provides **\$17,000,000** for EAC's administrative expenses, which is **\$2,942,000 more** than the fiscal year 2006 level. The accompanying bill provides **\$4,950,000** of these funds for transfer to the **National Institute for Standards and Technology for technical assistance related to the development of voluntary State voting systems guidelines.**
 - **Senate Report 109-293 AGENCIES APPROPRIATIONS BILL, 2007**
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Taxpayer Investment

- Belief in the system
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The Law on Test Labs

- Public Law 107-252 SEC. 231 Certification and Testing of Voting Machines
 - (b) Laboratory Accreditation.-- (1) Recommendations by national institute of standards and technology.--**Not later than 6 months** after the Commission first adopts voluntary voting system guidelines under part 3 of subtitle A, the Director of the National Institute of Standards and Technology shall conduct an evaluation of independent, non-Federal laboratories and shall submit to the Commission a list of those laboratories the Director proposes to be accredited to carry out the testing, certification, decertification, and recertification provided for under this section.
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ROI Illusion: Test Labs

- **Promise:** VVSG Version 1 adopted December 2005. Lawful requirement to have list of NIST-recommended labs no later than June 15th 2006 (HAVA).
 - **Reality:** EAC admits failure and now states this list will be available in 2007 and they instead will **grandfather existing test labs** as an “**interim**” measure for “**provisional**” certification
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ROI Illusion: Promise on Security Guidelines

- EAC and NIST repeatedly stated their intention and goal to have new guidelines, testing standards, and accredited certification labs in place **“to assist States election officials in preparing for the 2006 election.”**
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EAC 2005 Annual Report

- In addition to making sure the Nation is prepared to vote in **2006**, EAC will focus on establishing the Federal Government's first voting system certification program, which will provide States with a list of voting systems to choose from that have gone through rigorous and exhaustive testing.”
 - The accreditation of testing laboratories and the certification of voting systems are very important responsibilities, and EAC will continue working with the National Institute of Standards and Technology (NIST) and election officials to ensure these programs are not interrupted and are conducted at the highest levels of proficiency.
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EAC Draft VVSG Version 1, April 13, 2005

- **VVSG Version 1** is intended to assist States election officials in preparing for the **2006 election**. This document augments the VSS-2002 to address the critical areas of accessibility, usability and computer security.
 - The EAC will implement the **Testing and Certification Program** required by Section 231(a)(1) of the Help America Vote Act of 2002 (HAVA) in two distinct phases: (1) the pre-election phase, and (2) the full program. **Both phases will be rolled out in 2006.**
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Mark Skall, Chief, Software Testing Division, NIST, March 22, 2005

- Goal is to provide guidance to states **in time for the 2006 election cycle**
 - Will “augment” and improve the 2002 VSS to:
 - Fill in gaps (accessibility and usability, VVPAT, wireless, and others)
 - Correct errors in the 2002 VSS
 - Help to ensure that installed voting system software is the software that has been tested
 - Initial work products in April, plans for completion in **November 2005**
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Documented TGDC Decisions for Improving Security in Time for the 2006 Election

- **Security:** Software distribution and setup validation procedures, including use of the **NSRL (National Software Registration Library)**
 - *Resolutions: 15-05, 16-05*
 - **Testing:** Test strategies and analysis, addressing COTS software, documentation requirements, non-conformant voting systems, and publicly available test suites and test reports
 - *Resolutions: 14-05, 17-05, 18-05, 25-05, 26-05, 27-05, 28-05*
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Reality: Sept. 29, 2005 TGDC Meeting

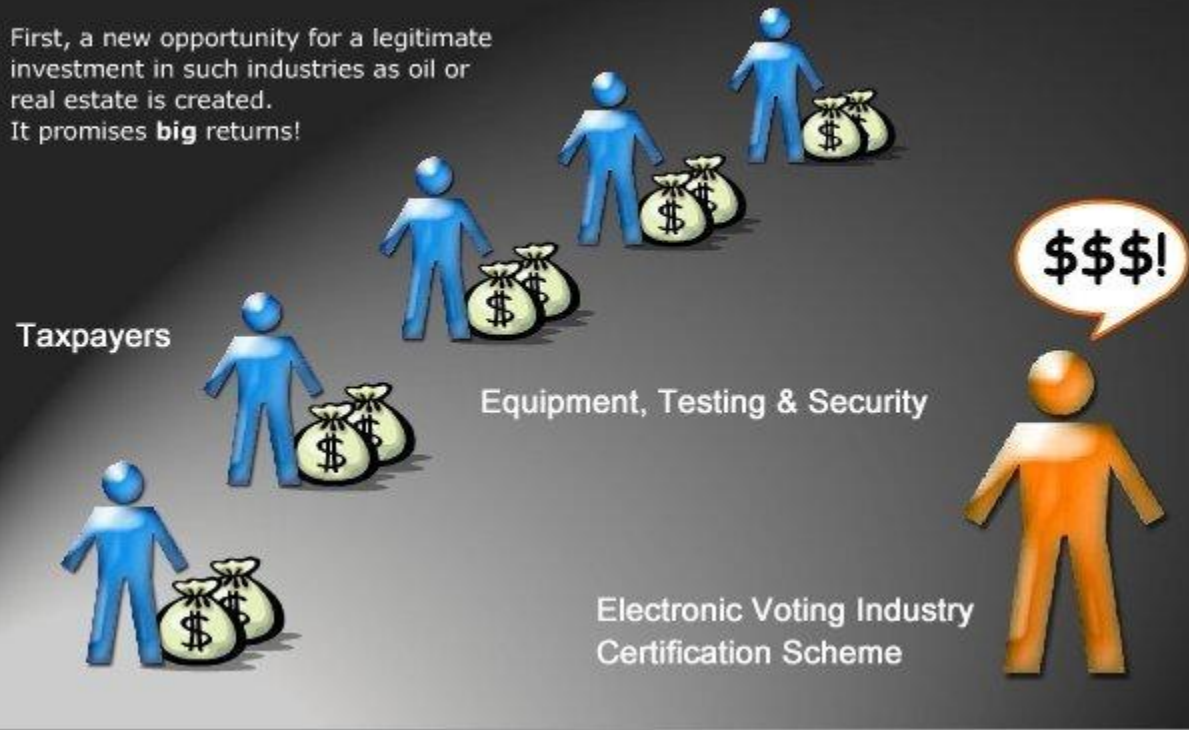
- [An unnamed] TGDC member expressed his concern over two apparently diametrically opposing ideas. “One of them seems to be bringing out some major new work product by July 2007. The other idea is basically rolling out revisions to the existing guideline product in a reasonable time as those ideas are vetted out and mature.
 - **I am kind of disturbed by the continuing reference to 2007.**
 - I think we need to be looking at a process where almost immediately we could publish revisions to the last work product dealing with **what we actually know now about security**, about usability, about accessibility, and continue, as we go through time, to bring out revisions to those areas as we develop new knowledge.”
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Reality : July 19, 2006 EAC Admits Failure in Testimony before Congress

- The pre-election phase of the program focuses on providing manufacturers a means to obtain Federal certification for modifications required by state and local election officials administering the 2006 General Election. This pre-election phase will ensure a smooth and seamless transition from the NASED program (which has qualified voting systems at the national level for more than a decade) to the more rigorous and detailed EAC program. **This will be done by delaying implementation of some the procedural requirements found in the full program until after the critical pre-election period.** This will allow the EAC to diligently review voting system modifications while, at the same time, ensuring a smooth transition and avoiding the unacceptable delays often associated with rolling out a new program.
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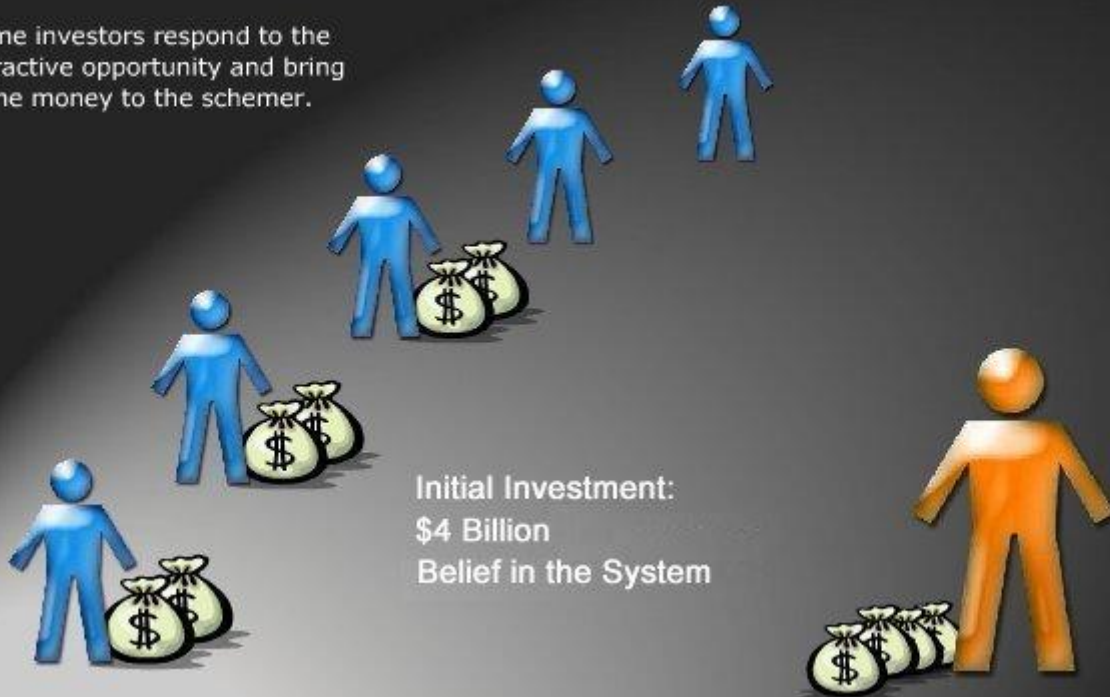
Ponzi scheme in action

First, a new opportunity for a legitimate investment in such industries as oil or real estate is created. It promises **big** returns!



Ponzi scheme in action

Some investors respond to the attractive opportunity and bring some money to the schemer.



Ponzi scheme in action

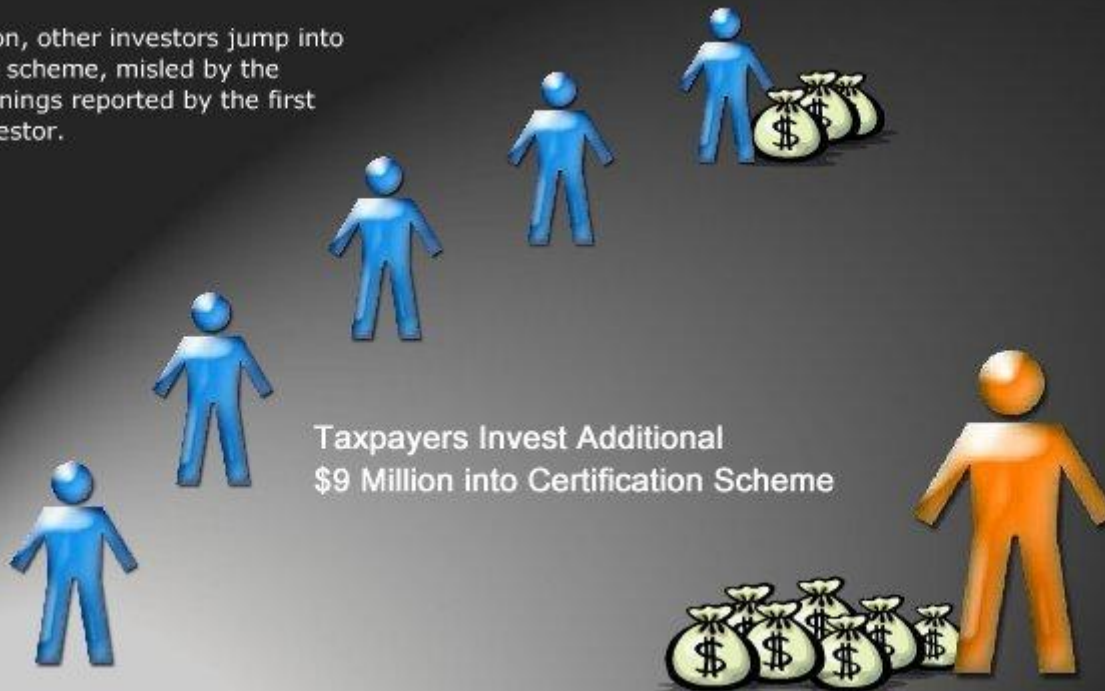
The schemer then takes some of the money and pays dividends to the first investors to make it look like a legitimate investment.



Roughly \$3 Billion sent to States
for Purchase of Voting Equipment
that will Fall under Certification Scheme
Promise of improved security
Part of this outlay used for Voter Registration Databases

Ponzi scheme in action

Soon, other investors jump into the scheme, misled by the earnings reported by the first investor.



Ponzi scheme in action

At this point the schemer may continue to pay dividends to a few investors or simply disappear with the money.



No Test Labs, No Testing,
No Certifications
Until Dec. 2006
Just After the November Elections
And then...
Nothing Will be Certifiable Anyway
There is No Improved Security

Unlikely That Anything Will *Ever* Be Certifiable

- According to plan, on January 1, 2008 VVSG Version II becomes the standard
 - The **market** will never catch up with the standards, it is a failed business model
 - The standards will never be attainable for this **industry**, software and hardware development requirements do not align with election system requirements
 - The products will always be **modified**, thereby nullifying the certification
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Market Will Never Catch Up to the Standards – The Business Model Fails

- Software and hardware development cycles are lengthy, require mass alpha/beta **testing, fixes, and re-releases**. Product development in this industry can not fit within the timelines of EAC cycles of certification standards
 - Software and hardware product development requires high level of **upfront cash** investment
 - The target market is the Public Sector: Counties, Towns, Cities, and States, which **can not afford** to buy new voting equipment with every new certification cycle
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NIST Acknowledges this Reality

- Mr. Skall: “Of course, when you have a standard that continually changes, you have a moving target, and it is very difficult to get implementation when the standard keeps changing. So, there is really a trade-off, I think, between how often one can update the standard.”
 - Mark Skall, Chief, Software Diagnostics and Conformance Testing. Division. National Institute of Standards and Technology, 9/29/2005 TGDC Minutes
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TGDC Acknowledges this Reality

- Mr. Craft: “In the real world as we roll out and certify the current edition of the standards, and as the labs and the users of the systems try to apply them, we are very quickly going to find pieces that are not measurable and that have no basis for testing. We are going to discover pieces of the standards that are clearly in error.”
 - Paul Craft, Florida Department of State, 9/29/2005
TGDC Minutes
-

National Academies of Science Acknowledges This Reality

- **“Election officials are increasingly realizing the fundamental contradictions between relying on current procedures and requirements for certifying voting system software, on the one hand, and holding elections on fixed, immovable dates, on the other.**
 - The **fundamental reality of software is that problems can emerge after the software has been certified and put into use**, and some of these problems may be serious enough to require fixing. However, ensuring that the installation of a fix does not have other, unintended consequences (e.g., causing yet another problem) can be a difficult process, and re-certification of modified software can be quite time-consuming. Yet elections are held on the first Tuesday of November and are postponed only under extraordinary and rare circumstances—and it is unlikely that the lack of certification for a patched software system would be regarded by election officials as such an extraordinary circumstance.
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National Academies of Science Acknowledges This Reality

- **Thus, in the event that problems are found after certification, election officials must then choose between using certified systems with known problems or using uncertified systems in which those problems may have been fixed—and the latter may be regarded by some election officials as the lesser of two evils.”**
 - NAS Letter Report on Electronic Voting, 07/31/2006
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Standards Will Never Be Attainable

- ❑ **1.3 Testing Scope:** Operational accuracy in the recording and processing of voting data, as measured by target error rate, for which the maximum acceptable error rate is **no more than one in ten million ballot positions**, with a maximum acceptable error rate in the test process of **one in 500,000 ballot positions**
 - ❑ **With thousands of different ballot designs—and millions of different ballot positions—in the nation, the product design would be too complex to meet this standard.**
 - **One county alone might require more than a hundred different ballots in the course of one year.**
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And...How Will They *Ever* Get From a 10% Error Rate to the New Standard?

- In April 2006, prior to the May 2 primary, the Cuyahoga County Commission contracted with the Election Science Institute (ESI) to conduct a comprehensive review of how their new voting system actually worked on an election day. ESI's report, including the performance of the Diebold Accuvote TSX voting system, was released by the Cuyahoga County Commissioners:
 - "...members of the manual count team found that **10 percent** of the paper ballots were physically compromised in some way."
 - Election Science Institute, 08/22/2006
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The Products Will Always Be Modified, Thereby Nullifying the Certification

- VVSG 2005: When a system has successfully completed the certification process, the EAC program **requires a copy of the certified voting system software to be provided to the National Software Reference Library** operated by NIST. This will enable election officials to validate that the software received by their jurisdictions is the same as the certified version
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Modifications Require new Testing and Certification

- The vendor shall have a process to verify that the correct software is loaded, that there is no unauthorized software, and that voting system software on voting equipment has **not been modified**, using the reference information from the NSRL or from a State designated repository.
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But Life Happens....

- And software *always* has to be modified:
 - Patches for bug fixes
 - State legislation changes
 - Ballot requirements



Modifications Can Occur Right Before Elections

- **SEP. 25 5:47 P.M. ET** The maker of the electronic poll books used to check in voters at the polls said it has fixed the problem that plagued the equipment on Maryland's primary election day.
 - The company demonstrated a **software patch** that it said fixes the problem.
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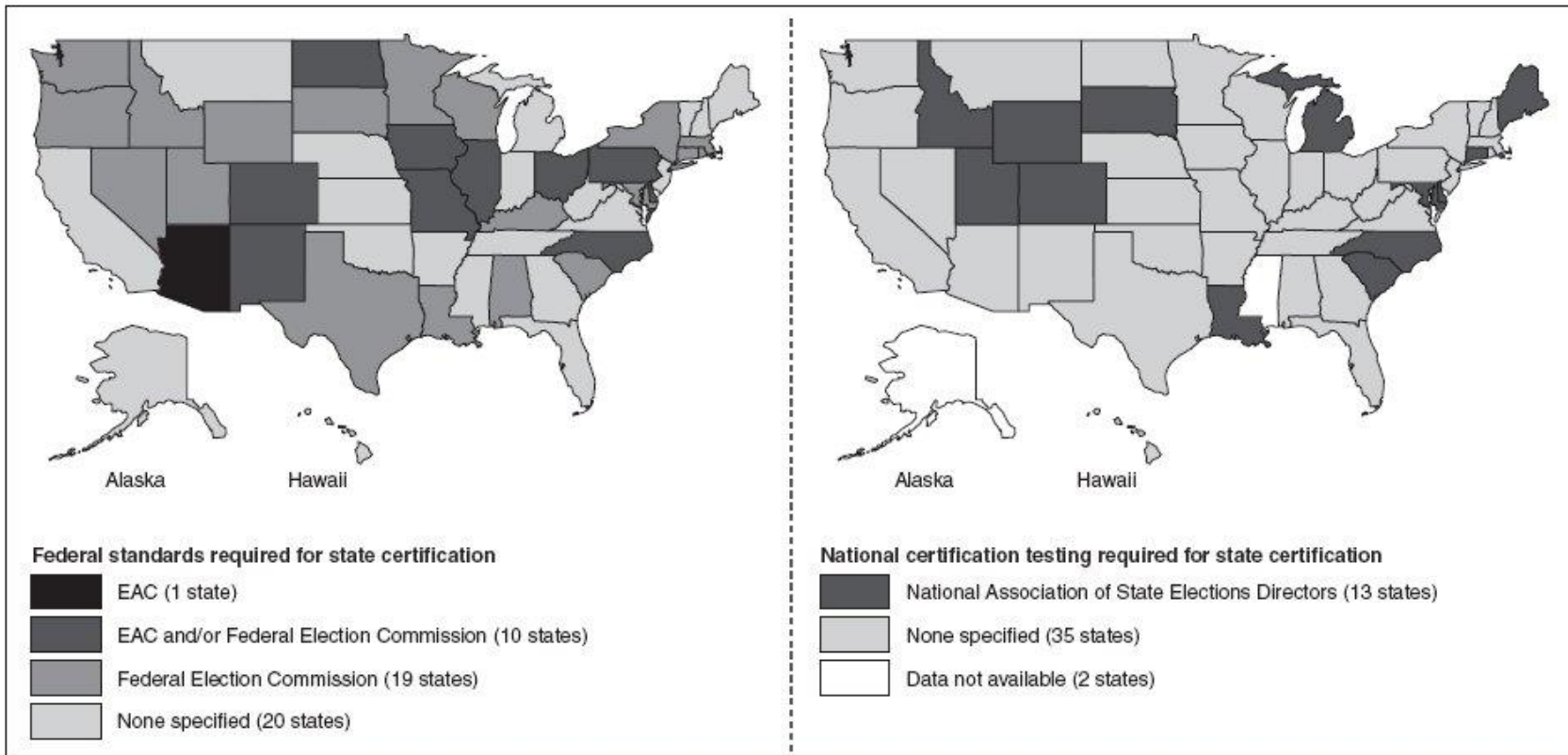
Recertification Loophole is Unrealistic: Who Will Determine Changes to Compliance?

- **VVSG 2005, 1.7.2.2 Basis for Limited Testing Determinations**
 - The accredited test lab may determine that a modified system will be subject only to limited certification testing **if the vendor demonstrates that the change does not affect demonstrated compliance** with these *Guidelines* for:
 - a. Performance of voting system functions
 - b. Voting system security and privacy
 - c. Overall flow of system control
 - d. The manner in which ballots are defined and interpreted, or voting data are processed Limited testing is intended to facilitate the correction of defects, the incorporation of improvements, the enhancement of portability and flexibility, and the integration of votecounting software with other systems and election software.
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Lifeline for the Certification Ponzi Scheme

- EAC: “Even though participation in the national certification program is voluntary, approximately 39 States used some element of the national certification program.”
 - For some states compliance with the Federal program is mandatory
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Figure 4: States Requiring the Use of Federal Voting System Standards and States Requiring National Certification Testing



When Modifications Occur

- What are the Options?
 - Recertify
 - Expensive
 - Impractical - timeframes don't support it
 - Run uncertified equipment
 - Break the law
 - **Hand counted paper ballots**
 - Requires a supporting infrastructure
 - Advanced system of checks and balances for election administration
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What's Next?

HAVA II: \$3 billion was already appropriated in HAVA I, how about the next round?

OR

Hand Counted Paper Ballots?
