REMARKS OF JOHN GALE, SECRETARY OF STATE, NEBRASKA EAC'S INTERDISCIPLINARY ROUNDTABLE DISCUSSION OF TGDC'S 2007 RECOMMENDED VOLUNTARY VOTING SYSTEM GUIDELINES WASHINGTON, D. C. MAY 5, 2008

MY NAME IS JOHN GALE, THE NEBRASKA SECRETARY OF STATE. I HAVE SERVED IN THIS ELECTIVE POSITION FOR SEVEN AND ONE-HALF YEARS. ONE OF MY CORE DUTIES IS THAT OF CHIEF ELECTION OFFICER FOR OUR STATE. I AM PRIVILEGED TO HAVE A DEPUTY FOR ELECTIONS, NEAL ERICKSON, WHO HAS SERVED IN THAT ROLE FOR ALMOST FOURTEEN YEARS, WHO HAS BEEN A CLOSE ADVISOR.

AS SECRETARY OF STATE, I HAVE SERVED ON THE U.S. EAC STANDARDS BOARD, AND HAVE ALSO SERVED AS ONE OF THE TWO STANDARDS BOARD REPRESENTATIVES ON THE U.S. EAC TECHNICAL GUIDELINES DEVELOPMENT COMMITTEE (TGDC) FOR THE PAST FOUR YEARS.

FOLLOWING THE PRESIDENTIAL ELECTION OF NOVEMBER, 2000, I ALSO SERVED AS CHAIR OF TWO LEGISLATIVELY MANDATED TASK FORCES IN MY STATE ON ELECTION REFORM AND ON VOTER TURNOUT ISSUES. BOTH TASK FORCES SUBMITTED FINAL REPORTS TO OUR STATE LEGISLATURE.

SINCE THE DISCUSSION TODAY WILL BE CONDUCTED IN SEVEN SEGMENTS, I WILL ADDRESS EACH OF THOSE TOPICS IN WRITING, BUT FIRST I WANT TO MAKE SOME PRELIMINARY COMMENTS ABOUT THE TDGC PROCESS.

A. TGDC PROCESS:

THE DRIVING ENGINE OF TGDC WAS THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST). TGDC WAS CHAIRED BY THE NIST

THE HOPE OF THE POST-2005 ITERATION BECOMING THE MORE FAR-RANGING, THOROUGH AND VISIONARY ONE.

HENCE THE 2007 VVSG RECOMMENDATIONS CONSTITUTED A RADICAL CHANGE FROM THE PREVIOUS VOTING SYSTEM STANDARDS. THESE CONCEPTS INCLUDED SOFTWARE INDEPENDENCE (SI), INDEPENDENT VOTER-VERIFIABLE RECORDS (IVVR), OPEN ENDED VULNERABILITY TESTING (OEVT), AND USABILITY BENCHMARKS. EACH OF THESE DID INDEED INTRODUCE ADDITIONAL COMPLEXITY TO SYSTEM DESIGN AND DEVELOPMENT, AS WELL AS INCREASE THE COST AND RISK, FOR VENDORS.

VENDORS WERE SIGNIFICANTLY EXCLUDED FROM THE TGDC CONSIDERATIONS; NEITHER VENDOR COSTS FOR DESIGN AND TESTING, NOR EQUIPMENT COST ASSESSMENT OF THE IMPACT OF THE STANDARDS, WERE A PART OF THE TGDC REVIEW; THE USABILITY OF NEW TECHNICAL EQUIPMENT FEATURES UPON ELECTION OFFICIALS AND POLL WORKERS WERE NOT CONSIDERED; AND, ELECTION ADMINISTRATION ISSUES WERE INTENTIONALLY EXCLUDED FROM TGDC REVIEW AS MORE APPROPRIATELY THE VENUE OF THE EAC.

ALTHOUGH THE TGDC VOTED UNANIMOUSLY TO RECOMMEND THE 2007 VVSG RECOMMENDATIONS TO THE EAC, IT WAS CERTAINLY WITH SOME DISCOMFORT AND MISGIVINGS BY THE ELECTION OFFICIALS ON TGDC. OUR HOPE WAS AN UNDERSTANDING THAT THIS WAS ONLY THE PRELIMINARY STEP, AND THE EAC WOULD THEN NEED TO BRING THE MANY OTHER INTERESTED PARTIES INTO THE LOOP, ESPECIALLY VENDORS AND ELECTION OFFICIALS, AS WELL AS THE MANY THIRD PARTY NGOS INTERESTED IN FAIR, RELIABLE, ORDERLY, AND COST EFFECTIVE ELECTION ADMINISTRATION.

DIRECTOR. THE ADMINISTRATIVE STAFF AND SCIENTISTS WERE ALL FROM NIST. THE PROJECT DIRECTORS WERE MARK SKALL AND JOHN WACK, BOTH NIST MANAGERS. TGDC WAS BROKEN DOWN INTO THREE SUBCOMMITTEES, HUMAN FACTORS AND PRIVACY; SECURITY AND TRANSPARENCY; AND TESTING AND CORE REQUIREMENTS. THESE SUBCOMMITTEES HELD REGULAR ONE HOUR TELEPHONE CONFERENCES CALLS TO UPDATE THE SUBCOMMITTEES ON THEIR OWN ISSUES; THEY WERE USUALLY HIGHLY TECHNICAL IN NATURE, LARGELY STAFF DRIVEN, AND SELDOM FRAMED TO BE POLICY DISCUSSIONS BY THE TGDC MEMBERS.

NIST WAS FUNDED BY HAVA TO UNDERTAKE THIS PROJECT, AND THE FULLTIME SCIENTISTS ENGAGED TO DO THE WORK ON THE PROJECT WERE VERY COMPETENT AND QUALIFIED. THEY DID APPROACH THE ISSUES FROM AN ACADEMIC RATHER THAN BUSINESS PERSPECTIVE. AS SCIENTISTS THEY WERE QUICKLY ENGAGED AS ACADEMICS IN THE TECHNICAL ASPECTS OF THEIR ROLE, AND VERY CAREFULLY SOUGHT TO AVOID REVEALING ANY POLICY BIASES TO THE TGDC SUBCOMMITTEES. AS A RESULT, THERE WAS ALWAYS A DISCONNECT BETWEEN THE TWO GROUPS, ONE WRAPPED UP IN THE DETAILS, AND THE OTHER SEEKING TO DEFINE POLICY CHOICES.

IN ADDITION, THE TGDC MEMBERS WERE SELECTED FROM A VARIETY OF ORGANIZATIONS AND INSTITUTIONS, BASED UPON A FORMULA IN HAVA, AND THE MAJORITY OF THE FIFTEEN MEMBERS WERE SPECIALISTS IN PARTICULAR FIELDS, WHETHER IT BE COMPUTER SCIENCE, ELECTRICAL ENGINEERING, OR USABILITY. IN ADDITION, TWO WERE ELECTION OFFICIALS FROM THE STANDARDS BOARD; TWO WERE ELECTION OFFICIALS FROM THE EAC ADVISORY COMMITTEE; AND TWO WERE FROM THE U.S. ACCESS BOARD. THESE SIX DID NOT HAVE THE SCIENTIFIC AND

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TECHNICAL SKILLS OF THE MORE EXPERT BOARD MEMBERS, NOR OF THE NIST STAFF SCIENTISTS.

THE SUBCOMMITTEES FOR THE MOST PART MET SEPARATELY BY TELEPHONE, AND NOT TOGETHER; THE SUBCOMMITTEES SELDOM MET TO CONSIDER AND VOTE ON POLICY ISSUES WITH REGARD TO THEIR SUBJECT MATTER; AND THERE WAS NO CROSS-TRAINING NOR ORIENTATION FOR THE MEMBERS ON A GENERAL LEVEL OF EXPERTISE OF THE MEMBERS.

CONSIDERABLE MATERIAL FLOWED FROM THE NIST STAFF, SUCH AS WHITE PAPERS AND CONSTANT REVISIONS TO THE PROPOSED STANDARDS, AND IT WAS VERY OVERWHELMING FOR THE LAY MEMBERS TO ATTEMPT TO READ, ABSORB, UNDERSTAND, AND PUT SUCH MATERIAL INTO THE CONTEXT OF POLICY ISSUES. AS VOLUNTEERS WITH THEIR OWN FULLTIME JOBS, THE LAY MEMBERS HAD TO RELY TO A VERY LARGE DEGREE ON THE NIST STAFF TO GUIDE THE PROCESS AND MAKE THE MOST REASONABLE AND APPROPIATE RECOMMENDATIONS. CERTAINLY THE PROCESS WAS IMPACTED BY TGDC MEMBERS, BUT WITH THE PRESS OF TIME AND THE LACK OF SCIENTIFIC EXPERTISE BY MANY MEMBERS, THE PRACTICAL RESULT WAS THAT TGDC WAS LED BY NIST AND NOT TGDC LEADING NIST.

THE TGDC MEETING AGENDAS WERE PREPARED BY NIST STAFF, THE TIMES ASSIGNED FOR REVIEW OF EACH SUBCOMMITTEE WERE MADE BY NIST, AND THE PRESENTATIONS WERE ALWAYS MADE BY NIST STAFF. THE MATERIALS PRESENTED FOR EACH SUBCOMMITTEE BY NIST STAFF WERE INTENSIVE AND EXTENSIVE, AND TIME FOR DISCUSSION WAS SHORT. IT WAS ALWAYS CHALLENGING TO GRASP THE TECHNICAL DETAILS OF THE POWER POINT PRESENTATIONS, AND THEN TO TRY TO SORT IT OUT INTO POLICY DISCUSSIONS. AGAIN CONSIDERABLE GOOD FAITH RELIANCE ON THE NIST STAFF WAS NEEDED.

IT WAS NOT UNCOMMON FOR TGDC MEMBERS TO FEEL MORE LIKE A
RUBBER STAMP AT TIMES THAN POLICY MAKERS.

IN SUMMARY, THE ORGANIZATION OF TGDC WAS AWKWARD AND IN MY
MIND TOO DISJOINTED, BUT THAT WAS THE WAY CONGRESS
CONSTRUCTED IT. WE HAD TO LIVE WITH THAT ARRANGEMENT, BUT THE
ULTIMATE PRODUCE WAS MORE OF A NIST PRODUCT THAN A TGDC
PRODUCT. THE FINAL DRAFT WAS A GOOD DOCUMENT FOR WHAT IT IS.
CRITICISM SUCH AS LACK OF READABILITY, COST ASSESSMENT, LACK OF
SUFFICIENT INPUT BY VENDORS AND ELECTION OFFICIALS IS CERTAINLY
WARRANTED. IT DID BRING TO THE TABLE ISSUES AND TOPICS RAISED BY
MANY GROUPS, AND GAVE THEM CLOSE ATTENTION. NOW THE QUESTION
IS WHETHER THIS PRODUCT IS WORKABLE IN THE REAL WORLD.

B. DEFICIENCES OF THE TGDC PROCESS:

TGDC WAS MANDATED BY CONGRESS TO MAKE 2005 VVSG
RECOMMENDATIONS BY THE END OF 2004, AND THOSE
RECOMMENDATIONS WERE LARGELY LIFTED FROM THE 2002 NASED
VVSS, IMPROVED AND ENHANCED TO THE DEGREE POSSIBLE, AND
APPROVED BY TGDC IN A VERY TIME PRESSURED ENVIRONMENT. THERE
WAS LITTLE CHANCE FOR DEEP POLICY REVIEW, FOR CONSIDERATION OF
CHANGING TECHNOLOGY AND VOTING PATTERNS, OR FOR VISIONARY
THINKING ABOUT INNOVATION CLASSES.

THE EAC TOOK THOSE 2005 TGDC VVSG STANDARDS, PUT THEM THROUGH
THE PUBLIC COMMENT PHASE, AND ADOPTED THE FINAL VERSION TO
TAKE EFFECT IN DECEMBER, 2007. SINCE EAC HAD BEEN RUSHED TO GET
ORGANIZED, HIRE STAFF, AND CONDUCT ANY SEMBLANCE OF ORDERLY
AND THOROUGH POLICY REVEW, THE 2005 VVSG SEEMED TO BE A
BOOTSTRAP BETWEEN THE 2002 VVSS AND THE NEXT ITERATION, WITH

C. SEVEN SEGMENTS OF INTERDISCIPLINARY DISCUSSION:

INTRODUCTION;

Remember that the goal of NIST and TGDC ultimately was to create a "gold standard" for all features across the board including security, accessibility, usability, and reliability. There was no attempt to prioritize these features, nor to assess the impact of costs, nor to consider how "best practices" of election administration might mitigate some of the security, reliability, usability, and accessibility features.

The drive to create a "gold standard" for all features of the 2007 VVSG recommendations arose in the midst of a drumbeat of an ongoing national debate on many issues that gathered noise and discord beginning right after the 2000 presidential election and through the 2004 presidential election cycle.

Election equipment vendors were attacked for displaying claimed biases in the 2000 presidential election, calling into question their integrity and fairness; Digital Response Electronic equipment (DREs), manufactured and sold by the equipment vendors for the 2004 election cycle was attacked as lacking both vital security to assure fair and reliable results and needed security from source code mischief and fraud that threatened the veracity of balloting results; a hue and cry that hand counting was the only true method of conducting a reliable ballot tabulation; claims that DREs needed Voter Verifiable Paper Audit Trails (VVPAT) to be trustworthy; accusations that the 2004 presidential election was stolen from the Democratic candidate by nefarious forces on behalf of the Republican candidate, and that the use of DREs led to those results.

This national attention caused considerable pressure on NIST from many sources to produce the highest possible analysis of existing equipment and proposed standards with the highest level of security in testing and in performance.

The final product was almost 500 pages in length, with highly technical explanations, and a level of detailed analysis and standards that left very little to discretion or choice. The product was never reviewed on the basis of what might be the most "practical, reasonable, and cost effective", nor whether election administration best practices might mitigate many of the

most demanding security and reliability testing and performance standards being proposed.

The 2007 VVSG recommendations were basically built by disassembling existing equipment, and rebuilding it with the intent of making it so totally secure, reliable, accessible, and usable, to be beyond dispute. In other words, the intent was to create standards for a perfect and infallible machine, essentially a new Titanic that could never sink again because of the minute analysis that covered even the thickness of plates and the quality of the rivets.

The 2007 VVSG recommendations must now themselves now disassembled and reconstituted with a candid eye on what is "practical, reasonable, and cost effective", as well as how election administration best practices might mitigate some of the costlier and esoteric standards.

These are some of the possible ultimate outcomes:

1. Since the equipment manufacturers have taken such a beating in the courts and the state legislatures, there are signs of movement among themselves toward mergers, toward going out of business, toward providing services and not equipment, and toward diversifying to other more profitable lines of activity. Using these new 2007 standards, and the costs of testing and certification involved, plus the smaller markets for sales available in the future, it is conceivable that there will be no U.S. election equipment manufacturers in the near future. Foreign manufacturers from Asia or Europe might become the suppliers because their lower costs will allow them to absorb the cost of testing, and they won't require sizeable markets to make a profit; or the U.S. government will have to issue public bidding with federal dollars for each style of needed equipment and quantity, similar to the Department of Defense competitive bidding for weapons and airplanes.

2. There is a real concern that the EAC testing and certification process will become so infinitely slow and overly expensive that the vendors can't afford the resources to wait for certification where they have no immediate recovery of those costs, and where the ultimate buyers might not pay the price of the new equipment which has been so greatly increased due to the testing and certification process. Add to this the fact that a number of states are adding their own state testing and certification process on top of the federal testing, and the delays and increased costs escalate even more. This

drain on resources, without any clear expectation of a final product to be sold, may be more of a risk than vendors are willing to assume. This could lead to states and counties abandoning the federal VVSG standards, buying cheap generic equipment, adopting simple and practical state standards, with testing to be done in other state labs, or even their own stripped down testing labs. If this were to occur, the federal standards and the federal test labs become anomalies.

3. We are already seeing dramatic steps being taken as a result of HAVA toward the centralizing of administration and processes from county level to state level, such as the statewide interactive voter registration systems; the ballot layout, design, and printing of ballots: and the assignment of auditing tasks. If the costs are so great that vendors can no longer afford to produce precinct and county level equipment, then there will be a surge toward election systems such as these: early voting mail in ballots only sent to every registered voter, with the ballots returning to one or more centralized voting center for tabulation by huge, sophisticated, costly, extremely fast and sensitive optical scan equipment purchased and owned by the states and run by state employees. Counties demand simple, cheap, and easy equipment which they can afford through tight county budgets, and which can be operated by part time minimum wage poll workers; if they can't get this equipment, the move toward state systems may be inevitable with poll workers and voting precincts a thing of the past. Vendors can then afford to design, test, and produce these expensive and sophisticated state election systems because "simple and cheap" are no longer the product bar.

4. Finally, we are seeing an exponential explosion of information technology and an increasing reliance on the Internet for much of our communication, of our financial transactions, our purchasing, and our news and consumer research. The Department of Defense has been working diligently to design a secure Internet-based system for overseas civilian and military personnel. Several states have implemented some form of Internet voting under certain circumstances already for these overseas voters. Young voters are increasing seeking and demanding that we consider designing and developing Internet voting within the next generation. If the costs of designing and testing of new precinct based election equipment gets out of hand, and the potential costs of statewide state-owned voting centers for sophisticated optical scan equipment reaches a certain magic number, then the entire grassroots, community based voting that we have known for

drain on resources, without any clear expectation of a final product to be sold, may be more of a risk than vendors are willing to assume. This could lead to states and counties abandoning the federal VVSG standards, buying cheap generic equipment, adopting simple and practical state standards, with testing to be done in other state labs, or even their own stripped down testing labs. If this were to occur, the federal standards and the federal test labs become anomalies.

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hundreds of years will collapse, and the drive will be toward designing secure Internet voting systems for each state, abandoning the tradition cost of buying quickly antiquated and controversial machine technology, and moving toward sophisticated software technology for Internet voting. There may still be a need for machines available in each county for the handicapped and visually impaired who can't access computer based Internet voting, but that cost of machines will be minimal compared to the needs of today for precinct based equipment for both regular and handicapped or visually impaired voters.

What specifically can be done with the proposed VVSG standards and with the certification testing procedures and infrastructure, to reduce the cost of the voting systems without compromising core functions of the voting system? (#1)

1. Grandfathering of older equipment that has already been tested and certified under older standards so that updates and firmware modifications that go through certification do not trigger the need for the entire piece of equipment to be certified under the newer standards (a significant cost issue for both vendors and end-users). There will need to be a bright line drawn as to what might impact core functions, but some things will be clear such as altering the casing of Automarks to reduce weight.

2. "Device-specific hardware cryptographic requirements" of the 2007 VVSG recommendations may be too burdensome, and impose severe burdens on the end-users. These requirements would match up each piece of equipment with the chip or card that will be inserted to tally the digital votes and will have an exact cryptographic code so that the equipment and the chips or cards cannot be mismatched between different precincts (election officials can no longer bring in extra machines to help out in busy precincts nor to help out where machines go down and need replacement).

3. Testing will be required to go beyond just analyzing ballot processing but also analyzing the source codes, so rather than just "input and output" analysis, it will follow the "wires" throughout the system. This "end to end" testing greatly increases the burden and cost of testing and certification.

4. Quality assurance now just requires that a vendor knows that its software does do what it is supposed to do before turning it over to a test lab; however, the new standards say that the labs should look at and review a

"technical development package" that must be prepared by the vendor. On the hardware side, the new standards have very high quality assurance, being the ISO benchmarks for development (these requirements greatly impact cost of development of new equipment that will pass these costs on to the end-users).

5. Previous standards in 1990, 2002, and 2005, provide that the source code format be reviewed for conformance to defined coding conventions/constructs. Under the 2007 standards, it appears that an additional review of source code will include "source logic" in an effort to detect potential coding errors that may not be caught in functional testing. Source codes are very different from designer to designer: they may all work but different reviewers may have different preferences; this could become very subjective and the review became very ambiguous. All of this will result in additional cost and delay in the certification process, as well as the time to market/deploy the new equipment.

What specifically can be done with the proposed VVSG standards and certification testing procedures and infrastructure to reduce time-in-process of a candidate system? (#2)

1. Streamline certification of some upgrades.

2. More testing labs to reduce time-in-process (by reducing backlog).

What specifically can be done to increase the efficiency and economy of efforts within the testing process at the federal, state, and local levels? (#3)

1. Establish cross-certification with skilled state testing labs; encourage states to accept certification of such certified and established state testing labs such as Florida, Georgia, Texas, or California in lieu of creating their own state testing labs. Vendors would then know to seek out one such state lab following federal lab certification to complete its certification process. This might help eliminate multiplication of duplicate state testing costs for the same equipment.

2. Certify certain state testing labs to federal standards for outsourcing of overload at federal labs; vendors must go to federal labs first, but can be outsourced from there to certain state labs.

How important is the timing of the passage and implementation of the next iteration of the VVSG? (#4)

1. Probably not high on my priority list.

a. In an ideal world when would you choose to have the next iteration of the VVSG become effective?

1. Maybe 2016.

How necessary is innovation in voting technology? (#5)

1. Considering the lead time necessary for research and development, coupled with the demands of the voters for alternative voting systems or processes, innovation needs to be constant and ongoing.

a. How can the EAC's program and the VVSG address the desired level of innovation?

1. The innovation class contained in the 2007 VVSG recommendations is an important component but is too general without much detail. How this provision is developed and whether very strict or reasonable will determine the level of innovation being attempted. I am concerned that the lack of detail on the Review Panel needs considerable attention as to the makeup, role and scope of the Panel. We must be acutely aware of the need to avoid addressing with too high a specificity the theoretical issues of software independence, core requirements, and cryptography, currently in vogue in academic circles, for the innovation class of future equipment. Broader vision, inclusiveness and flexibility will be needed to consider the expected impact of new technologies emerging in future years. The innovation class should not hold hardware and software advances to unyielding standards of existing hardware and software designs.

b. What are the possible sources of capital to reach the desired level of innovation i.e. from the vendor? From Congress? From private enterprise? From academia?

1. I assume the vendors have difficulty investing large resources into ventures with an uncertain future of testing and certification, as well as possible market prices that are unacceptable to end-users. I also assume that resources from the private sector are limited until the innovations show promise of marketability, which can be way down the road. Service seems to be the chosen path of election equipment vendors for the foreseeable future, unless there is a truly hot discovery with an immediate market, as in the case of Automarks. I am also skeptical of the resources that academia can bring to bear on system innovation design and certification costs; they will be helpful as consultants on engineering and design, but won't frontload cash investment into the market place. That leaves us with Congress, perhaps the worst choice as those resources come with a high price, usually onerous strings attached including federal oversight and audits.

Every voting systems stakeholder shares risks with other stakeholders and experience risks unique to their constituents. (#6)

a. What risks do you view as being shared?

1. Personally I view all the risks as being shared. To do otherwise is to embrace a finger pointing game with everyone else when things go wrong.

b. What risks do you view as being unique to your sector?

1. Election administrators don't have to manufacture machines, worry about paper stock, parts, or supplies, but similarly vendors don't have to face constituents, precinct workers, and legislators, or get elected. As a state election official, the perception of voters of whether an election is fair, easy, friendly, reliable, and successful comes from their brief interaction with the totality of election management; we have to make it all come together right to maintain that high level of confidence, pride in citizenship, and ease of participation so necessary to keep democracy successful.

c. Has there been an adequate assessment of those risks?

1. No, and this was articulated by the previous Roundtable.

d. In the absence of an adequate assessment of those risks, how can those risks be prioritized and mitigated?

1. Not particularly well.

How do you prioritize the features (i.e. security, accessibility, usability, and reliability) of a voting system?

1. 1) reliability, 2) security, 3) accessibility, and 4)usability.

a. What are the best ways to strike a balance between these sometimes competing features?

1. First, you have to strike a balance between the capabilities of election administration to address various levels of these features, and what specifically can only be done by the equipment. Creating standards for equipment that seeks to do it all, and do not trust any interface with election administrators, is ivory tower thinking. The two have to be balanced. Using election administration "best practices" can save considerable costs if trained and trusted, to make use of practical, cost effective, and reasonable equipment for a fair, reliable, trustworthy election. I doubt there is every a perfect machine of any kind, and I doubt that every risk inherent in every machine can be eliminated. The human factors that interact with the equipment to significantly reduce the risk of errors of the end users are the most cost effective means of keeping a county based election system functioning at the grass roots level, which America has loved and enjoyed for over 200 years.

In addition, you have to balance the known and experienced risks against the theoretical fear of low probability risks; if equipment standards and competent testing can address the known and experienced risks of various kinds of equipment, and election administration processes can address the low probability theoretical risks with best practices, you have a practical, reasonable balancing that bring a confluence of forces which machines alone cannot accomplish.

There may be to be ongoing levels of cooperation and partnerships between states to share testing labs, risk assessments, training protocols for precinct workers, and best practices to keep all states at a higher uniform

level of good election administration in our modern age. Matching grant funds from the federal government can help this process. Also, the future seems to foretell the eventuality of multi-channeling alternatives for voters, from Internet voting, to phone voting, to early voting, to precinct or voting center voting, to all mail in ballots for certain precincts or counties in every state. Such a balancing of alternatives may also help keep down the overall cost of equipment and maintenance for elections.