



PIMA COUNTY ELECTION INTEGRITY COMMISSION
MEETING MINUTES FOR MARCH 18, 2016
<http://www.pima.gov/commission/ElectionIntegrity.shtml>

The Pima County Election Integrity Commission met in regular session on March 18, 2016 at 9:00 a.m. in the Herbert K. Abrams Building, 3rd Floor Conference Rooms 3108/3110 at 3950 S. Country Club Road, Tucson, Arizona.

ITEM 1. ROLL CALL

Present: Brian Bickel, Barbara Tellman, Bill Beard, Beth Borozan, Brad Nelson, Karen Schutte, Chris Cole, Matt Smith, Arnie Urken, and Tom Ryan. Jeff Rogers arrived at 10:15.

Also in Attendance: Ellen Wheeler, County Administrator's Office, and Ken Carbullido and Dan Clarke from ES&S.

ITEM 2. PLEDGE OF ALLEGIANCE

The American flag was saluted with the Pledge of Allegiance.

ITEM 3. APPROVAL OF MINUTE SUMMARY – February 19, 2016

It was moved by Chris Cole, seconded by Barbara Tellman and carried unanimously to approve the Minutes of the February 19, 2016 meeting.

ITEM 4. CALL TO PUBLIC

No public in attendance.

ITEM 5. RISK-LIMITING AUDITS

- **Presentation by Philip Stark**

Tom Ryan suggested moving on until the technical difficulties with the video conferencing presentation by Dr. Stark have been resolved. Tom suggested starting with Item 8, to also give Ken Carbullido time to resolve an equipment issue.

ITEM 8. TRACKING NEW LEGISLATION – Bill Beard

Bill Beard referred to his handout on election related bills at the Legislature [a copy of this list is incorporated into these Minutes as Attachment 1]. He gave an update on some of the items: HB 2084, "Voter Registration Records – Death Records"; it has been voted out of the Senate and

returned to the House; it will probably be passed and sent to the Governor. HB 2429, "Electronic Filing – Local Officials file SOS" is no longer in caucus, it is now before the Committee of the Whole House. HB 2440 has actually been signed by the Governor. Bill also mentioned that HB 2583, "Open Meetings – Video Record Open and Exec" failed on the floor; he tracked this bill because it relates to the EIC as a public body. He noted that the bills highlighted in bold type may have a chance to make it to the Governor for signature before the end of the legislative session. HB 2023, "Ballot Harvesting," was signed by the Governor. Arnie Urken mentioned a challenge to this bill; Bill Beard believes that they may need to wait the 90 days after the end of the legislative session before challenging it in court. Barbara Tellman asked Brad Nelson how he intends to enforce this at the polling place; Brad responded that there is no enforcement at the polling place. Previous proposed legislation did have poll worker requirements for receiving multiple ballots, but that is not the case this time.

ITEM 9. PLANS FOR 2016 ELECTIONS – Brad Nelson

Brad Nelson reported that early ballots are now being counted for the Presidential Preference Election. In round numbers, there are approximately 330,000 voters eligible for this election; this is strictly an election for members of the Republican, Democratic and Green parties. Approximately 223,000 ballots were mailed out through the early balloting process, so 66% of eligible voters got their ballot through the mail. At this point in time, the Recorder's office has turned over approximately 120,000 verified early ballots and 116,700 have been tabulated. Sample ballots have been mailed out to eligible households. In Brad's view, tabulation of ballots is going very smoothly, perhaps in part because this is a very simple ballot with one contest, compared to the ballot in November 2015. In the 2008 PPE, there were some 12,000 provisional ballots from people not eligible to vote because of the party affiliation issue. This time, there will be a large sign in all polling places in English and Spanish stating that only voters of the particular parties participating are eligible to vote. If a person demands to vote a provisional ballot, they will be given an opportunity; that is the law. But, unless there is an error in the roster and register, that ballot will not be verified. The signature roster will have only eligible voters listed. The Special Situations table will have a list of all registered voters in that precinct which will show voters with no party affiliation or with a party not participating in the PPE such as the Libertarian Party.

Karen Schutte asked if there would be any issues with posting Pima County's results to the Secretary of State's results. Brad explained that the previous SOS administration contracted with a vendor known as SOE for election night reporting on a statewide basis. The individual counties would feed information into that statewide process. The current SOS administrator has come up with a new reporting system; Pima County has sent mock election results but Brad does not know the status at this time.

Karen also asked if there is anything posted regarding candidates who are off the ballot; Brad responded that has come up every time there is a PPE. There is no mechanism within state statute for posting that information. If votes are cast for those candidates, the results will still be posted. Barbara noted that there are a surprisingly large number of overvotes given the simplicity of the ballot.

Karen also mentioned that the Recorder's office now is on Facebook to share information on returning ballots, etc.

Tom Ryan asked Brad if there will still be a hand count audit; Brad responded in the affirmative. Tom confirmed with Brad that reporting will be done by Congressional District, and then asked if

results will also be reported by precinct. Brad said they would be reported by voting area. Since we are required to reduce the number of polling places by half, there will be 124 voting areas to report, which are often a combination of two or three or more precincts. The hand count audit will be done by voting area. Bill Beard asked how early ballots dropped off at a polling place will be tabulated, by the home precinct, or by the location they were dropped off? Brad explained that all early ballots dropped off at polling locations must still be sent to the Recorder's office, and then will be part of the batches of early ballots.

For the May 17 election, Brad said the Elections Department is working with the Secretary of State's office because the SOS is sending out the publicity pamphlet. By law, we will be using the exact same polling places as were used in the PPE with some minor variations. Mid-May is graduation time for some schools, and some of the schools that are polling places have notified us that they cannot be a polling location for May 17th. The publicity pamphlet received from the SOS will show the proper polling place. Brad anticipates that most voters who wish to vote in that election will do so through the early voting process.

Brian Bickel asked how many questions will be on the May ballot; Brad responded there will be only two questions. Other jurisdictions considered adding their own question to the ballot, but the opportunity to do so has passed. Proposition 123 is about education funding, and Proposition 124 is about pension reform for public safety employees.

ITEM 10. ELECTION DATABASE STRUCTURE AND DISTRIBUTION – Tom Ryan

Tom Ryan met with Brad and some of his staff about the database structure and distribution. Tom asked Brad if he had any updates. Brad referred to copies of a test ballot and the Cast Vote Record for it [copies of the test ballot and Cast Vote Record are incorporated into these Minutes as Attachments 2A and 2B].

ITEM 5. RISK-LIMITING AUDITS

- **Presentation by Philip Stark**

There were further attempts to bring up the video conferencing capability using Mr. Carbullido's equipment. During this time, Brad gave some information on putting the serial numbers on ballots. He got an ink cartridge from ES&S and installed it on a scanner. The imprints were very faint; Ken explained that it is faint because if it needs to be rescanned, you don't want to confuse the image processor. But it is legible.

The video conferencing component was not operable, so a cell phone was hooked up to speakers so that Dr. Stark could give his presentation via phone conference.

Dr. Stark began his presentation by explaining the basic idea of risk-limiting audits. Whatever equipment or process failures may have occurred during the counting of an election, there should be a strong assurance that at the end of the day, the right winners have been announced. A risk-limiting audit is a systematic way to do that by strategically looking at a small fraction of paper ballots by hand. It is an intelligent manual recount that stops the recount process as soon as it becomes clear, with convincing evidence that the outcomes are right, that there is no point in continuing. If convincing evidence is never obtained, it proceeds to a full hand count, which then corrects the answer if the answer is wrong.

There are two basic strategies for a risk-limiting audit. Both require good ballot organization such as using a "ballot manifest" that tells what precinct and how many ballots are contained in each box, so that if the audit says to look at ballot 5,912 you know which box to go to and how to retrieve that ballot.

The simplest way to do an audit is to do a ballot polling audit; by looking at a random sample of ballots and you get a large enough majority for the winner from a large enough sample of ballots, it gives statistical evidence that, if you looked at all ballots, it would show that same person to be the winner. If you see a majority for the loser or don't find a strong enough majority for the winner, you look at more ballots.

Dr. Stark then talked about how to randomly choose ballots: Using ten-sided dice, individuals observing the audit can roll the dice. A 20-digit random number can be formed by rolling the dice, and there is no way of rigging it. That number goes into a pseudo random number generator which then generates a sequence of ballot pulls. The algorithm that is used to turn that first number created by the dice into a string of ballot numbers is transparent and anyone can verify the process. Once the ballot numbers are generated, they can be sorted so that you only need to go into a given box of ballots once.

The second method is the comparison audit which determines if the system made errors in its interpretation of individual ballots by comparing a human interpretation to the voting system's interpretation of the same ballot. Dr. Stark asked if Pima County's election system can individualize ballots; Ken Carbullido confirmed that it does have digital images and does show the interpretation for every ballot, and it also has an imprinter that uniquely serializes every ballot as it goes through the scanner. Dr. Stark said that is the best because you have a unique identifier on each ballot that ties to the cast vote record for each ballot. You would ask the system to export a list of ballot identifiers and the cast vote records (CVR) for each, and then compare the ballot to the CVR.

In a risk-limiting audit, the risk that is being limited is the risk of certifying an outcome that is actually wrong. I can say I want a 99% chance that I will correct the outcome, and a 1% chance that a wrong outcome would not be corrected. If the outcome is correct in the first place, it will be right when the audit is over. If the outcome is wrong in the first place, there is a 1% chance it will still be wrong when the audit is over. If you want a risk limit of 1%, the number of ballots you will need to look at is 10 divided by the margin. So if the margin is 10%, 10 divided by 10% is 100; if the margin is 1% the number of ballots to look at would be 1,000.

Bill Beard asked if risk-limiting audits could be used with images rather than the physical ballots. Dr. Stark responded that you would need to have one digital image of every physical ballot, and that the image is good enough to determine how the ballot was voted and is an accurate representation of the actual ballot. There are now two opportunities for error instead of one. For the purpose of election integrity, you would want to look at the same artifact that the voter actually looked at. The work involved in ensuring that each image is an exact representation of the ballot is at least as much as conducting the audit.

Bill Beard then asked Dr. Stark to give a brief description of himself and his experience. Dr. Stark stated he is a professor of statistics at U.C. Berkley in the Division of Mathematical and Physical Sciences. His introduction to election auditing was serving on the California Secretary of State's post-election audit standards working group in 2007, looking at the methods in place for auditing elections and whether elections systems should be certified or decertified in California. He realized that none of the auditing methods made a lot of sense, and it occurred to him that the auditing methods were answering the wrong question. He came up with the risk-limiting audit, published

some literature on it and got a number of California counties to pilot it. The risk-limiting audits were endorsed by a number of election integrity groups in various states including Verified Voting, Common Cause, League of Women Voters, and others. They applied for EAC funding in California and Colorado and received EAC grants to conduct further pilot studies. Colorado passed a law to require risk-limiting audits with implementation in 2018. California has three laws, including one that if a county wishes to use equipment that is not federally certified or is conditionally certified by the state, they are required to conduct risk-limiting audits. He estimated that about 20 jurisdictions have done pilot studies.

Dan Clark from ES&S noted that the pilot study in Jefferson County, Colorado in November, where they use the same system as is used in Pima County, took less than one hour from beginning to end, for the first time while presenting it to everyone. There were 186,000 ballots cast with multiple contests, and using Dr. Stark's algorithm, they looked at 16 random ballots. Dan wanted to give a frame of reference for this method.

Barbara Tellman asked Dr. Stark how Pima County's current system mandated by state law compares to his system. During central count, they randomly choose different batches of 200 to 400 ballots to hand count after the election; these are not separated by precinct but rather in batches. How does this compare with his system of random choosing? Dr. Stark asked what happens if there is a discrepancy between the machine count and the hand count. Barbara responded that the law requires that it be within a certain margin of error; Brad added that if it is within the margin the hand count stops, and outside of the margin, the hand count is expanded until the margin is reached. Dr. Stark explained that the margin of error really needs to be tied to the margin of the contest, because knowing that the count is accurate within 2% of the batches isn't the highest level of accuracy to know that the contest outcomes are right if the contest margin is smaller than that. Also, because of sampling variability, knowing the batches are within 2% might only let you know that it is accurate within 5% or 8% of the entire population of ballots. The other thing is that you want escalation rules that demand convincing evidence that the outcomes are right. His bet is that there are more ballots counted than necessary in a lot of contests, but not enough in some other contests. It looks like this requires more hand counting than the risk-limiting audits, and doesn't provide strong statistical evidence that the outcome is right.

Barbara's other question is, since all the counting is now done at a central count and none is done at the polling place, is a precinct level audit better than a random one? Dr. Stark responded that it is less efficient by a lot. He again said that the number of batches required for the audit is tied to the margin and the size of the batch is irrelevant. He gave this analogy: I have 100 one-quart pots of soup, and I want to know overall if the soup is too salty. I randomly pick some of these one-quart pots of soup and drink the entire thing to get an idea of how salty the soup is on average. That corresponds to auditing at the precinct level. An alternative is to pour all 100 one-quart pots in one large caldron, stir it up really well, and taste one tablespoon. That's the way that auditing at the individual ballot level works by stirring things across precinct boundaries.

Since there were no more questions, Tom Ryan thanked Dr. Stark for taking his time to give the EIC this presentation.

Matt Smith asked Dan Clark how you get a better audit with just eighteen ballots. Dan responded that the margins of the outcomes were wide enough that it really wasn't in question. Tom Ryan reiterated that the rule of thumb is to take 10 divided by the percentage of margin. Say there is a 20% margin; 10 divided by .2 is 50 ballots. If you are auditing a statewide race, it is the statewide margin that determines the initial sample size. That workload is divided among all 15 counties proportional to the number of votes in each county. When there is an audit of a contest that

crosses jurisdictional boundaries, the individual margins are irrelevant; it is the margin of the race itself. If Pima County were auditing a local race, there would be no need for participation by other jurisdictions, but in the case of a statewide contest, the entire state would need to be involved. And the only way that would happen is to do what Colorado has done by requiring risk-limiting audits statewide.

Arnie Urken asked Tom what he proposes to do as an experiment here; Tom's response was to treat the county's result as if it were the final result just to become familiar with the process. The other goal would be to invite other counties' election personnel to observe, as well as the Secretary of State's office.

Chris Cole clarified that if there is a problem, this method will not determine where the problem is other than continuing to count ballots and revealing that the outcome may be wrong; Tom agreed that it is not diagnostic. Chris asked if it can be used for diagnostic purposes. Ken Carbullido responded that it probably could. The problem could isolate to one certain precinct, or one certain central count machine.

Brian Bickel asked to clarify that ballot images would exacerbate the problem, not help it, because the accuracy of the images would have to be validated. Ken Carbullido restated it to say that auditing images versus ballots do not help in Dr. Stark's view of how to do the audit. Images don't make the system worse; he feels that with experience over time you will be able to trust those images because they will be spot on time and again.

Arnie Urken added that this concept hinges on the assumption of a margin, but what if the outcome of the election is a tie? At this point Arnie is skeptical.

ITEM 6. RISK LIMITING AUDIT PILOT STUDY – Tom Ryan

Tom Ryan wanted to get a sense from the Commission whether or not to go ahead with the risk-limiting audit pilot study in May. Philip Stark is willing to come to Pima County following that election to actually guide us through that process. Tom has spoken with both Sharon Bronson and Mr. Huckelberry about this, and they seem to be supportive except that Mr. Huckelberry would like to see the County Attorney approve the process. Supervisor Bronson didn't think that this needs Board approval but Tom thinks it would be a good idea for EIC members who have been appointed by Supervisors to call them to see if it rises to the level of a formal recommendation.

Barbara Tellman asked, since these are statewide issues, would the margin of error be based on the statewide results? Tom said that it should be treated as though the county's outcome is the outcome of the election for the purposes of the pilot study, a walk-through of the procedure. Bill Beard asked Tom if he could put together a short paragraph of exactly what we will be doing so the appointees can give that to their Supervisor.

Barbara suggested using both ballot images and ballots in the pilot study to see how accurate the ballot images are.

Ellen Wheeler said that Mr. Huckelberry is supportive of doing this as long as the Secretary of State or the County Attorney doesn't say it is illegal to do this extra pilot. Chris Cole said the Libertarian Party is supportive of anything that will increase confidence in the outcome, as long as the results justify the cost.

Karen Schutte thought it would be a very hard sell to the public to suddenly say we are going to hand-count fewer ballots. Tom responded that, by the time it gets to that stage, state laws will have had to be passed, so we will have had to convince the Secretary of State and the Legislature.

Tom mentioned a paper that Dr. Stark wrote called, "A Gentle Introduction to Risk-Limiting Audits" that is relatively non-technical, without the mathematical derivations but it does describe the procedure.

Barbara followed up on Karen's comment about the public perception of the hand count audit. The current method involves usually 40 to 50 people, but if it is limited to a few professionals in the county it will be difficult to convince the public. Tom responded that the public perception is that the current audit is meaningful. Tom agrees that it is meaningful to the extent that it checks the machine count, but not meaningful to validating an outcome. Barbara said she doesn't see how this method would correlate to Tom's desire for an end-to-end precinct hand count audit; Tom responded that he has been convinced that is not the best way to do it. Bill Beard added that those who are involved in the political realm understand that perception is reality, and the perception is that without it you don't trust anything. Tom agrees that there will be an education process involved, and we must take one step at a time.

Tom asked Brad if he is OK with doing this. Brad responded that he needs to discuss it with Mr. Huckelberry, but overall, the answer is yes. Barbara asked Tom if he will write a description of what exactly will be done; Tom said he will write it at the level he understands it at the moment.

ITEM 7. WELCOME & INTRODUCTION OF KEN CARBULLIDO, ES&S – Tom Ryan

Tom Ryan introduced Ken Carbullido and Dan Clark from ES&S, who will give a presentation on the election system now owned by Pima County.

Ken thanked Dr. Ryan and said that ES&S values its role in the election process. He referred to his slide presentation [a copy of this presentation is incorporated into these minutes as Attachment 3].

Ken went through his presentation in the order of the questions that had been provided to him by Tom Ryan [Attachment 3, page 1]. The first question was for an overview of system data flow. Slide 2 shows a diagram with the central count high speed scanners, DS850's. The network is totally closed and allows images and results data to be transferred to the filer server. In the picture, the bottom cylinder on the left depicts the first transfer point and the top cylinder is the database. Transfers can be done periodically or at the end. In this version, the transfers will transfer everything from the beginning; for example if you scan between 8:00 and 12:00 and transfer at 9:00, you will get one hour's worth of transfer. If you transfer again at 10:00, you will get two hours' worth. This was part of the problem when the server was overloaded; the other problem was the working drive of the partition in the server was way too small. That has been corrected to give more space. When asked if the system could be programmed to append the file instead of adding duplicates from each transfer, Ken responded that is a safety net, but that in subsequent slides, he will show improvements that dramatically increase the speed. In response to discussion that in the event of a fire, all the data would be destroyed since it is all stored in one location, Ken noted that for entities not using a network, the data can be stored on thumb drives, as pictured; Dan Clark corroborated that there will be some counties, plus the City of Tucson that use the thumb drives.

Slides 3 through 5 show different operations within the network; the tests were conducted in the ES&S laboratory. Slide 3 shows the approximate speed for transferring data results—not images—

with the current version shown in blue, and with the new version shown in red. Slide 4 shows the approximate speed for transferring images. This shows the various operations that all have to happen before that file is transferred—encrypted, zipped, sent. In the current version, 10,000 ballots take about 17 minutes; in the new version it will be about a minute. This is for images and results. For 100,000 ballots, the new version will take approximately 12 minutes, versus three hours with the current version. Tom Ryan asked what the bottleneck is in the process; Ken responded that when analyzed, they discovered it is the packaging step, which includes converting from internal storage format, signing the ballots, combining them all and signing the whole thing again and zipping it up which compresses it. Barbara asked about the encryption; Ken responded that is within the packaging step. Slide 5 shows the batch save operation. He also clarified that all save operations are done on the DS850 scanners. Tom asked about the need for compression; Ken actually questioned that also since this is a closed network. Maybe for a future release, they will take a look at the packaging; perhaps it has been over-engineered.

The next couple of questions related to software updates and certification. The certification process goes through both the federal and state levels. Slide 6 shows the new version of ES&S Voting System. The new version EVS5210 recently certified by the State of Arizona does not have a lot of benefits for Pima County. The one with the most benefits is EVS5400, which is still in the federal certification process. All the DS850 testing is completed and all passed; the ExpressVote system is still being tested. Jeff Rogers asked if it has a chance of being completed in time for the November election; Ken said it has a chance.

Slides 7 through 10 show product enhancements in EVS5210. Dan Clark described the ExpressPass function, where you can bring up your sample ballot on your phone, fill it out and it creates a QR code. When you go to the polling place, you can scan the QR code on the ExpressVote and it will bring up your ballot, where you can change it or just print it out. The ExpressVote is completely offline, also.

The next question was about security. Slide 11 shows the security features. Ken explained the EQC—Election Qualification Code. These are in every piece of equipment from scanners to reporting system to a USB thumb drive and all must be enabled by that EQC. Any device not enabled by that code will be rejected.

Tom Ryan referred to the term “paranoia” and there is actually a reason for that. If you look at the previous Diebold system, it was built on a Microsoft Access database that was wide open that could be accessed by various third party software and manipulated without a trace. How does ES&S avoid that problem? Ken responded that he knows something about that system. That was not a hardened system, whereas this system is. In other words, the database here cannot be logged into. Only the application they have written has rights to log into the database. And ES&S has divided the rights to the application into different roles. Only certain people have the rights to define the election, and only certain other people can bring in the election results. A separation of duties can be created within staff. Additionally, everything that is done goes into an immutable audit log. Brad also added that everything that is done is in the video archive which is stored forever.

Slide 12 addresses alternate voting methods; ranked choice voting has been conducted with this system in Minnesota. This system doesn’t necessary have the algorithms, but the cast vote records can be exported into an Excel spreadsheet and then whatever ranked choice voting algorithms are desired can be run. This whole system with its export capability is certified by the EAC; the algorithms have not been certified, but the capability to feed the data is.

Ken then addressed the question about auditing. The scanners have the high speed sorting capability that can sort by precinct so that a manual count may be done on that precinct. Tom clarified that if the precincts to be audited were chosen ahead of time, during the election you could, in principle, pull out those precincts from every batch and separate them. Karen Schutte asked if precincts could be changed in the middle of an election; Ken responded that they could be, as there is a menu item for that. Brad asked Ken if this could be done in the case of a recount to sort the early ballot batches for that particular race. Realizing he would need to run all the ballots to sort for that race and could easily tabulate at the same time, Brad said he is merely exploring the options.

Ken also mentioned the serial numbers that can be applied to ballots, and they will be in sequential order. This can help create the ballot manifest as Dr. Stark mentioned. Bill Beard asked if, in the case of a recount, the ballots would need to be reoriented so that the serial number is not applied on top of the original serial number. Ken responded that yes, they should be reoriented. And since the first four numbers in the serial number ID the scanner, if you are running on multiple scanners, the scanners can be programmed for that ID. There is no chance of duplicating numbers from one scanner to another unless there are more than a million ballots run.

Slide 13 shows a table that demonstrates how the serial number corresponds with a cast vote record; you can see a number of filters on the left side. This is a table view of ballots now in the database. If you need to look at a particular ballot, you can right click on the serial number and bring up the view in slide 14. Tom Ryan asked if the cast vote records are numbered from one to the number of ballots; Ken responded they are. If you are going to do a random number selection, would you look for the cast vote record or the serial number? Ken responded that if you want to retrieve the image, you need the serial number. Tom pointed out that in this table there are gaps in the cast vote record sequence. Ken suggested that this table may be from one scanner or one batch.

Slide 15 shows the data exported into a spreadsheet; slide 16 shows the cast vote record export and the write-ins are actually shown in the spreadsheet. If you wanted to provide the information to someone to review, you could create the export, which exports every image, puts each ballot into a PDF, and zips it all into a zip file (slide 17). It could then be put onto a CD. Slide 18 shows a ballot that was voted in a ranked choice voting contest with the layout in first, second and third choices. Slide 19 shows the corresponding vote cast record. Ken then explained how ranked choice voting worked in the particular example shown. If a first choice candidate receives the majority the race is over. If he doesn't get the majority, they take the candidate who received the least number of votes and remove him. They look at the ballots where he was the first choice and look at the candidates that were the second choice and allocate the 2nd choice among the remaining candidates. If this creates a majority the race is over; if not they repeat the process until someone receives the majority.

Tom Ryan had a question about the cast vote record (CVR) and statement of votes cast (SOVC). Tom understands that Pima County makes a backup of election results (not images) on the system on a daily basis. Can you go back to those files and create a CVR and SOVC from those, as if the election had finished on day one? Ken said that summary results are sent from the DS850's; he doesn't believe individual CVR's are being sent to the server. The CVR exists on the scanner; Ken believes that when they do an export of results, they are giving a summary. Tom clarified that presumably a SOVC could be created from the summary. So, for each day you can create the SOVC, but you cannot create the CVR because that resides on the scanner; Ken responded in the affirmative. Tom asked if there was a way to export the CVR from day one; Ken explained that would be with the whole file set, including the images. To get the CVR, you transfer the images. The purpose in Tom's

wanting this information is for the database distribution issue and finding the best way to ensure that there are only additions to the vote record and no changes to anything else. This was a sanity check on the database that we had before. The CVR would be ideal for verifying this. The SOVC would be good, but not as detailed. If you look at the CVR from day one, and then at the CVR from day two, should just be appended to. Ken suggested that there is a backup capability on the scanner, although it takes as long as sending to the network. Reports can be run and saved in electronic format. It would take a certain role for reading and generating results; don't give the rights out for this function. And if someone did run the report, that would be in the audit log.

The EIC thanked Ken and Dan for coming and making this presentation.

ITEM 11. FUTURE AGENDA ITEMS

Risk-Limiting Audit Pilot Study
Tracking New Legislation
Plans for 2016 Elections
Election Database Structure and Distribution
Report on PPE

ITEM 12. NEXT MEETING DATES

The next meeting date will be April 15, 2016.
June 3, 2016

ITEM 13. ADJOURNMENT

It was moved by Bill Beard and seconded by Beth Borozan and unanimously carried to adjourn the meeting. The meeting adjourned at 12:00 noon.

Election Related Bills at the Legislature

PCEIC - Beard

March 2016

Bill	Description	Sponsor	Status
HB 2010	Ballot Harvesting	Kern	2 nd Read
HB 2015	Publicity Pamphlets – Earlies Mailed AFTER Pamphlet	Stevens	Senate Caucus
HB 2016	Early Ballots – Mail 21 days instead of 27 days Changed to PEVL Cancelation	Stevens	3rd Read
HB 2017	Early Voting – Extend Time to Post Signs	Stevens	Senate 2nd Read
HB 2023	Ballot Harvesting	Ugenti-Rita	Signed by Gov
HB 2039	Election of Judges	Finchem	2nd Read
HB 2053	Provisional Ballots – Allow Some Votes as Valid	Friese	2 nd Read
HB 2083	Exploratory Committee Remove	Stevens	Senate 2nd Read
HB 2084	Voter Registration Records – Death Records	Stevens	Senate Caucus
HB 2093	Campaign Finance Disclosures	Clark	2 nd Read
HB 2094	Notify Voter Ballot Defects	Clark	COW
HB 2095	Ind Expenditures – Corporations Disclosures	Clark	2 nd Read
HB 2096	Ind Expenditures – Corp/Union Audits	Clark	2 nd Read
HB 2097	Automatic Voter Registration	Clark	2 nd Read
HB 2098	Campaign Finance Recipients of Corp \$ - Register	Petersen	2 nd Read
HB 2121	Clean Elections – Voter education	Petersen	Senate 2nd Read
HB 2252	Lt Governor Duties	Mesnard	COW
HB 2283	Ranked Choice Voting	Mendez	2 nd Read
HB 2289	PC's – Write-Ins	Bowers	2 nd Read
HB 2296	Charitable Contributions to Campaigns Disclosure	Mesnard	Senate 2nd Read
HB 2297	Political Advertisers – Contributor Disclosures	Clark	Senate 2nd Read

ATTACHMENT 1

Bill	Description	Sponsor	Status
HB 2373	RTA Extension Election Extension Authorization	Shope	3rd Read
HB 2428	Publicity Pamphlets – Electronic Filing	Stevens	Senate Caucus
HB 2429	Electronic Filing – Local Officials file SOS	Stevens	Senate Caucus
HB 2440	Municipal District Improvements Elections	Petersen	Transmit to Gov
HB 2456	National Popular Vote – Interstate Compact	Mesnard	Transmit to Senate
HB 2477	PC – Term of Office –Canvas Date	Ugenti-Rita	Senate 2nd Read
HB 2534	County Wide Vote By Mail	Shope	
HB 2557	Technical Corrections – Deceptive Mailings	Ugenti-Rita	
HB 2567	PPE Funding	Gowan	Transmit to Senate
HB 2570	Ballot Statement – Local Bonds	Allen	Senate 2nd Read
HB 2580	ON-Line Election Information	Friese	
HB 2583	Open Meetings – Video Record Open and Exec	Stevens	Failed on Floor
HB 2592	Non-Profits – Electronic Voting	Ackerley	Senate 2nd Read
HCR 2002	School Super – Gov Appointee	Friese	
HCR 2003	Mine Inspector – Gov Appointee	Friese	
HCR 2009	Ind Redistricting Com – Members Elected	Petersen	Senate 2nd Read
HCR 2013	Clean Elections Repeal	Ugenti-Ritaq	2 nd Read
HCR 2020	Lt Governor – Joint Ticket	Mesnard	Caucus
HCR 2028	Election of Judges – Terms	Finchem	COW
HCR 2035	Clean Elections Lobbying	Petersen	Senate 2nd Read
HCR 2043	Legislature Authority to Modify Initiative/Refer	Mesnard	Senate 2nd Read
HCR 2046	Voting Age 16	Mendez	
HCR 2047	Initiative/Referendum	Thorpe	2 nd Read
	Minimum Signatures Outside Pima/Maricopa		
SB 1007	Dr License – Automatic Voter Registration	Sherwood	2 nd Read
SB 1027	PPE Include Independent Voters	Quezada	2 nd Read
SB 1028	Extended Early Voting Hours	Quezada	2 nd Read

Bill	Description	Sponsor	Status
SB 1029	Voter Registration – SS #	Quezada	2 nd Read
SB 1030	PEVL Verification	Quezada	2 nd Read
SB 1031	Vote Centers on Campus	Quezada	2 nd Read
SB 1032	Election Procedures – Vote centers	Quezada	2 nd Read
SB 1033	Felon – Voting Rights Restoration	Quezada	2 nd Read
SB 1034	Voter ID – Repeal	Quezada	2 nd Read
SB 1035	Petitions – Notary Requirement Removed	Quezada	2 nd Read
SB 1069	Campaign Finance Disclosures	Quezada	2 nd Read
SB 1071	Ind Expenditures – Corporations Disclosures	Quezada	2 nd Read
SB 1072	Ind Expenditures – Corp/Union Audits	Quezada	2 nd Read
SB 1073	Same Day Voter Registration	Quezada	2 nd Read
SB 1074	Voter ID – VA, Student ID	Quezada	2 nd Read
SB 1075	Statewide Voter Registration – Portability	Quezada	2 nd Read
SB 1076	Provisional Ballots – Partial Tally	Quezada	2 nd Read
SB 1077	Provisional Ballot – Tally	Quezada	2 nd Read
SB 1078	Provisional Ballot Verification	Quezada	2 nd Read
SB 1079	Voter Registration Deadline – 14 Days	Quezada	2 nd Read
SB 1080	Early Ballot – Allow election Day Postmark	Quezada	2 nd Read
SB 1081	Early Ballot Verification – Cure	Quezada	2 nd Read
SB 1082	Election Date – Tech Corrections	Shooter	2 nd Read
SB 1165	National Popular Vote	McGuire	
SB 1174	Lobbying Public Officials – Disclosure	Farley	2 nd Read
SB 1175	Campaign Finance – Ind Expenditure Disclosure	Farley	2 nd Read
SB 1202	Same Day voter Registration	Sherwood	2 nd Read
SB 1203	Early Voting Locations – Hours of Operation	Sherwood	2 nd Read
SB 1218	National Popular Vote	Shooter	
SB 1260	Dr License – Automatic Voter Registration	McGuire	2 nd Read

Bill	Description	Sponsor	Status
SB 1341	Early Ballot Vote at Polls	Quezada	2 nd Read
SB 1342	Dr. License – Automatic Voter Registration	Sherwood	2 nd Read
SB 1351	School Bond Elections Exclusions	Lesko	House 2nd Read
SB 1360	Countywide – All Mail Voting	Worsley	2 nd Read
SB 1391	Election and Ethics Commission	Quezada	2 nd Read
SB 1392	Automatic Voter Registration – Dr License	Quezada	2 nd Read
SB 1429	Public Retirement Systems Special Election	Lesko	Signed by Gov
SB 1453	Judicial Elections	Shooter	2 nd Read
SB 1480	Clean Elections Violations	Sherwood	2 nd Read
SB 1486	PPE Funding	Biggs	COW
SB 1516	Campaign Finance Amendments	Driggs	House 2nd Read
SB 1519	Early Ballot Collection Receipt	Dial	House 2nd Read
SCR 1015	Clean Elections – Judges	Dial	2 nd Read
SCR 1017	Redistricting Commission – Membership	Dial	House 2nd Read
SCR 1020	Judicial Elections – Term of Office	Shooter	2 nd Read

For more information on specific legislation - <http://www.azleg.gov/Bills.asp>

**PROPOSITION 43B/
PROPOSICION 43B**

Natural Area Conservation and Historic Preservation

A "yes" vote shall authorize Plima County to issue and sell \$1,000,000 of general obligation bonds of the County to be repaid with secondary property taxes.

A "no" vote shall not authorize Plima County to issue and sell such bonds of the County.

Conservación de áreas naturales y preservación histórica

Un voto "sí" autorizará al Condado de Plima a emitir y vender \$1,000,000 de bonos de Obligación general del Condado para ser pagados con impuestos secundarios sobre la propiedad.

Un voto "no" no autorizará al Condado de Plima a emitir y vender tales bonos del Condado.

BOND APPROVAL, YES/
APPROBACION DE BONOS, SI

BOND APPROVAL, NO/
APPROBACION DE BONOS, NO

**PROPOSITION 431/
PROPOSICION 431**

Flood Control and Drainage

A "yes" vote shall authorize Plima County to issue and sell \$1,000,000 of general obligation bonds of the County to be repaid with secondary property taxes.

A "no" vote shall not authorize Plima County to issue and sell such bonds of the County.

Control de inundaciones y drenaje

Un voto "sí" autorizará al Condado de Plima a emitir y vender \$1,000,000 de bonos de Obligación general del Condado para ser pagados con impuestos secundarios sobre la propiedad.

Un voto "no" no autorizará al Condado de Plima a emitir y vender tales bonos del Condado.

BOND APPROVAL, YES/
APPROBACION DE BONOS, SI

BOND APPROVAL, NO/
APPROBACION DE BONOS, NO



Cast Vote Record: 98,020Poll Place: **POLLS**Precinct: **080**Ballot Style: **080 [Sheet Number 1]**Party: **NONPARTISAN**Serial Number: **0107000063**Machine Serial: **8513090107**Blank Ballot: **NO****Contests:****MAYOR (COT) CITY OF TUCSON (630)**

Vote For: 1

Write-in (631)

Counted

(Marked)

COUNCIL MEMBER WARD 1 CITY OF TUCSON (634)

Vote For: 1

HUNT, BILL

Counted

<P6>(REP) (637)

COUNCIL MEMBER WARD 2 CITY OF TUCSON (639)

Vote For: 1

LAWTON, KELLY

Counted

<P6>(REP) (641)

COUNCIL MEMBER WARD 4 CITY OF TUCSON (644)

Vote For: 1

BURKHOLDER, MARGARET

Counted

<P6>(REP) (647)

PROPOSITION 201 (649)

Vote For: 1

NO (651)

Counted

PROPOSITION 403 (653)

Vote For: 1

NO (655)

Counted

PROPOSITION 404 (657)

Vote For: 1

NO (659)

Counted

PROPOSITION 405 (661)

Vote For: 1

NO (663)

Counted

PROPOSITION 425 (695)

Vote For: 1

BOND APPROVAL, NO (697)

Counted

PROPOSITION 426 (699)

Vote For: 1

BOND APPROVAL, NO/ APROBACIÓN
DE BONOS, NO (701)

Counted

PROPOSITION 427 (703)

Vote For: 1

BOND APPROVAL, NO/ APROBACIÓN
DE BONOS, NO (705)

Counted

PROPOSITION 428 (707)

Vote For: 1

BOND APPROVAL, NO/ APROBACIÓN
DE BONOS, NO (709)

Counted

PROPOSITION 429 (711)

Vote For: 1

BOND APPROVAL, NO/ APROBACIÓN
DE BONOS, NO (713)

Counted

PROPOSITION 430 (715)

Vote For: 1

BOND APPROVAL, NO/ APROBACIÓN

Counted

DE BONOS, NO (717)

PROPOSITION 431 (719)

Vote For: 1

BOND APPROVAL, NO/ APROBACIÓN Counted
DE BONOS, NO (721)

From: Tom Ryan
Sent: Wednesday, February 24, 2016 11:24 AM
To: Ken Carbullido
Cc: Brad Nelson; Sara Balentine
Subject: Topics for March 18 EIC Meeting

Ken,

The Pima County Election Integrity Commission met last Friday and we discussed some topics that you might be able to cover at our March 18 meeting:

Overview of system data flow, from ballots to reports. Include scanning, data transfers (election data and images), the various software components, backups, databases, and reporting capabilities. We'd like to know about any major options a user has for data flow or data storage.

Image transfer times. We are concerned about the time it takes to transfer image data. We are interested in ways we can reduce this time.

Software updates. What is being planned for software updates and when will these be available? We understand there is an update that will be available for our May election and a subsequent update that's in development.

Certification. What is the status of the federal certification process from your perspective? What do you currently have in the certification pipeline?

System security. What design elements are in place that fall into the security realm? For example, how would an insider's attempt to manipulate election data be detected?

Alternative voting methods. Does the system support methods such as IRV, approval voting, and cumulative voting? If so, how is the software tested? If not, are there plans to support such methods? We would be interested in any experience you may have with these alternative methods.

Auditing support. What capabilities does the system have that support post-election auditing of election results?

On this last topic, I am hoping that Philip Stark, the inventor of Risk-limiting Audits will be able to give an overview of RLA concepts and implementation issues at the beginning of the meeting, via Skype.

Let me know if you have any questions or concerns.

We are pleased that you are able to attend the March 18 meeting and we are looking forward to an interesting discussion.

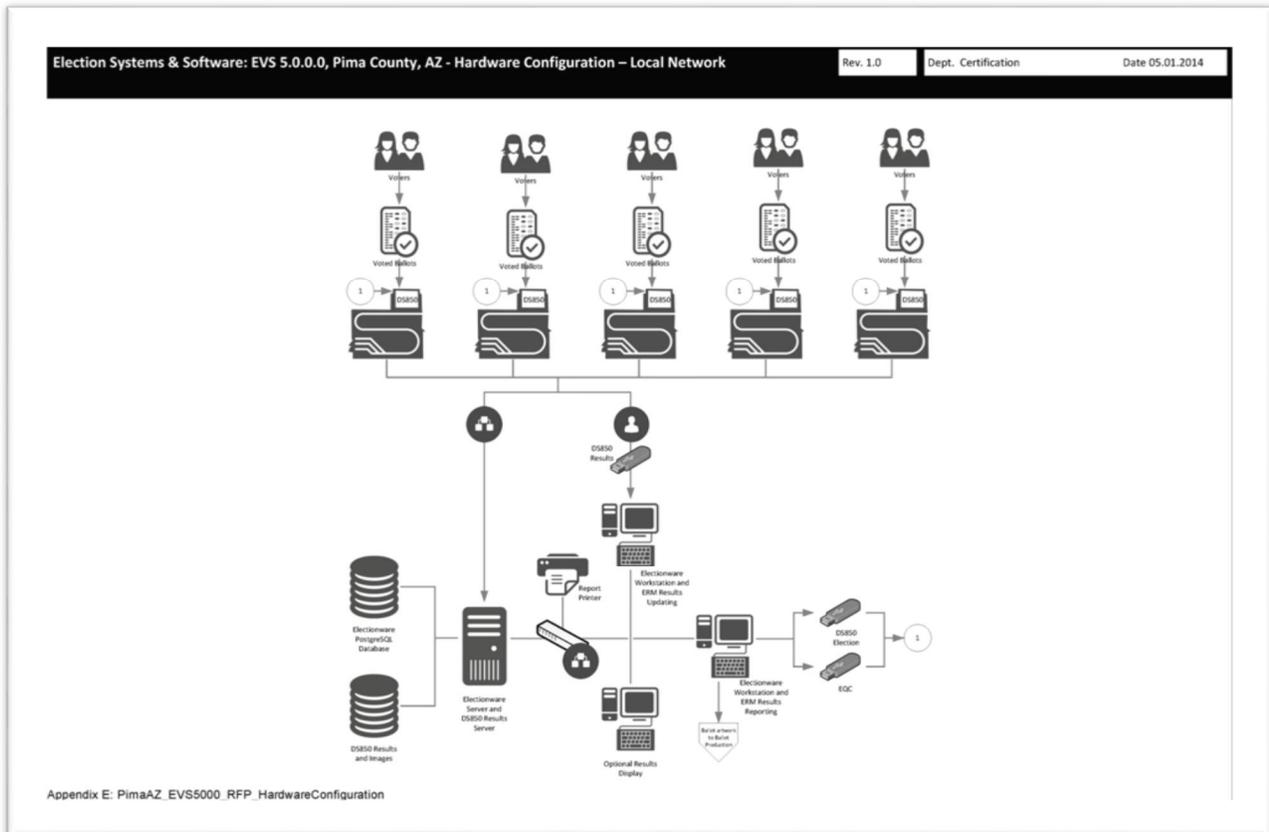
Regards,

Tom
Chair, Pima County Election Integrity Commission

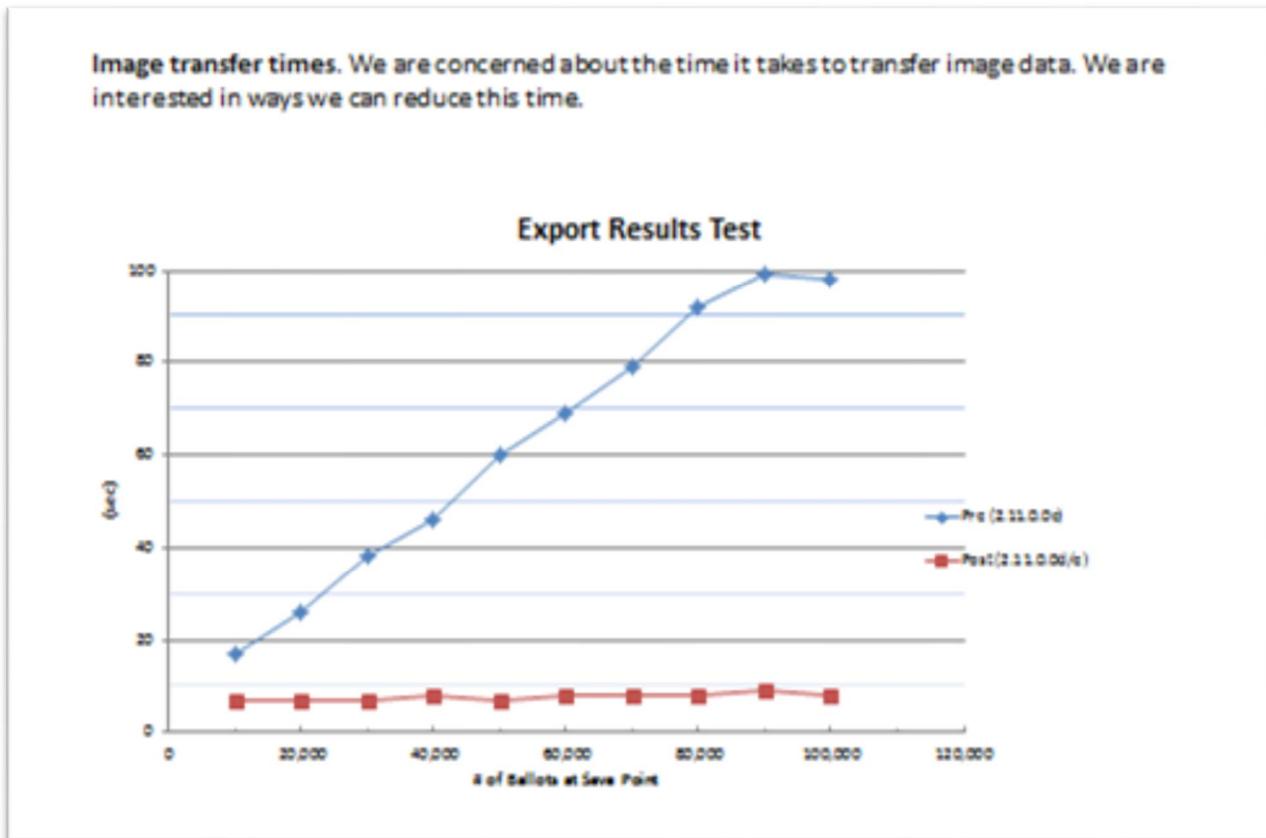


Pima County Election Integrity Commission
Ken Carbullido, Senior Vice President – Product Strategy
and Management
March 18, 2016

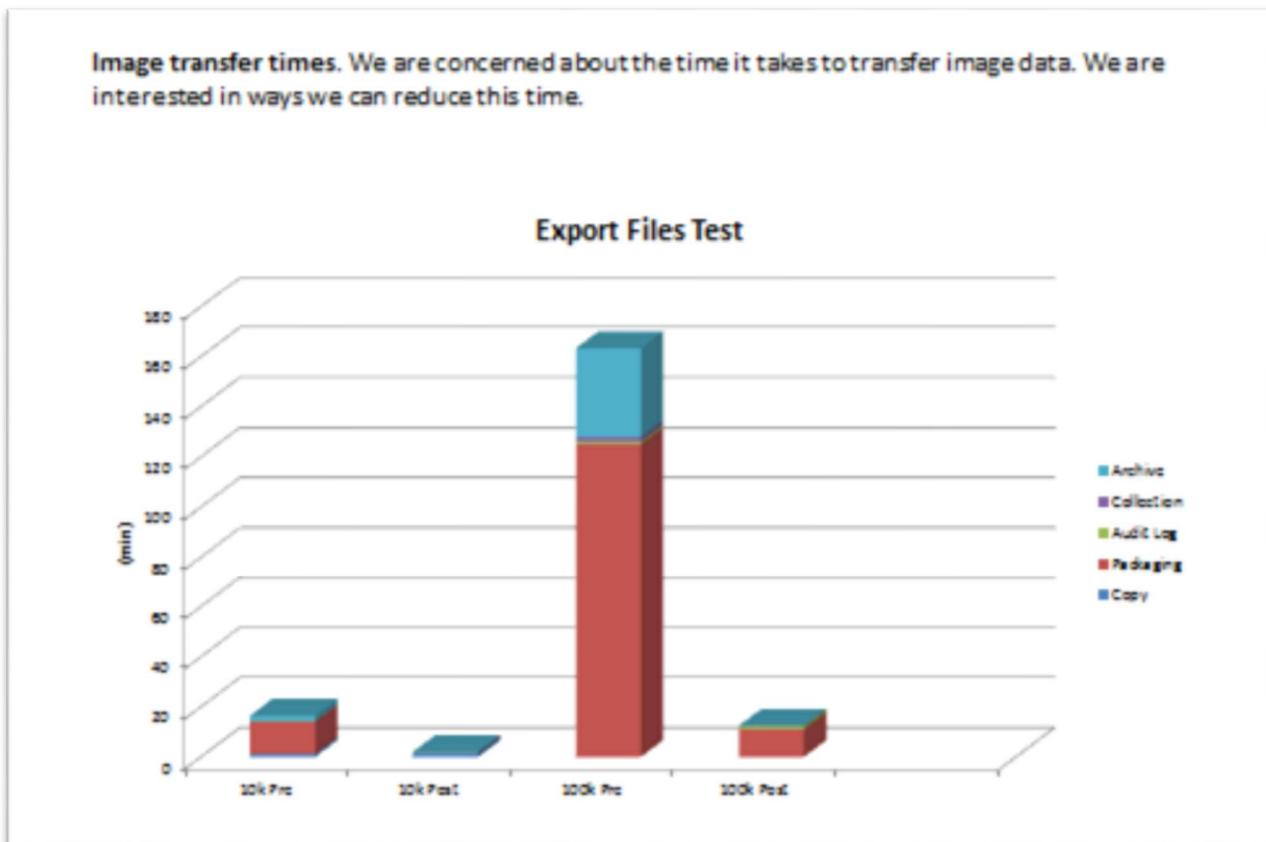
Slide 1



Slide 2



Slide 3



Slide 4

Image transfer times. We are concerned about the time it takes to transfer image data. We are interested in ways we can reduce this time.



Slide 5

Software updates. What is being planned for software updates and when will these be available? We understand there is an update that will be available for our May election and a subsequent update that's in development.



Certification. What is the status of the federal certification process from your perspective? What do you currently have in the certification pipeline

- Unless the system has recently been upgraded, Pima County is currently using EVS v.5.2.0.0 which includes the DS850 v.2.10.0.0
- [EVS 5.2.1.0 for Pima County EIC Meeting.pptx](#)
- The State of Arizona certified EVS v.5.2.1.0. on February 2, 2016, which includes the DS850 v.2.10.1.0.
- EVS v.5.4.0.0 includes the DS850 v.2.11.0.0 and the much improved data transfer speed improvements. Currently EVS v.5.4.0.0 is in the federal certification process. The date to bring this to Arizona for State certification is TBD.

Slide 6

EVS 5.2.1.0 Product Enhancements

Election Management System

Product Enhancements since the EVS 5.2.0.0 release

- ✓ **Electionware**
 - Added the ability to configure the DS200 write-in snippets report
 - Added support for Bengali language
 - Clean-up enhancements such as better handling of DS200 media when 'Acquired' into Electionware database
- ✓ **Election Reporting Manager (ERM)**
 - Several clean-up enhancements such as:
 - Corrected the display of the District Control File name prompt in certain reporting options tabs.
 - Better handling of DS200/DS850 'all polls' - only those precincts that had ballots assigned to them will be counted in ERM.

Slide 7

EVS 5.2.1.0 Product Enhancements

DS850

Key Product Enhancements since the EVS 5.2.0.0 release

- ✓ **DS850 Central Scanner**
 - No enhancements for Arizona customers. The only enhancement was to support Virgin Island specific Straight Party logic.

Slide 8

EVS 5.2.1.0 Product Enhancements

ExpressVote

Key Product Enhancements since the EVS 5.2.0.0 release

- ✓ **ExpressVote**
 - Updated Operating System and Scanner Printer Engine (SPE) board firmware for improved ExpressVote card handling
 - Screen updates (ie: updated Copyright screen, etc.)

- ✓ **ExpressVote Rolling Kiosk**
 - Added another ExpressVote stand option for counties to use.
 - Designed for easy transport to and from polling locations and provides a secure card container for counties who want to use the 'rear-eject' feature. The ExpressVote summary cards remain in the secure container and would later be tabulated on the DS200 or DS850.
 - Integrated QR-Code Scanner for optional 'ExpressPass' implementation

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Optional Products/Features

ExpressVote QR Code Scanner (ExpressPass)

- ✓ Optional QR Code Scanner connects to the ExpressVote, which allows voters to make their selections utilizing ES&S' Ballot Online at home or while waiting in line at their polling location. ExpressPass will generate a QR Code containing the voter's selections that the voter scans on the ExpressVote, verifies their selections on the touchscreen, and then prints their ExpressVote summary card.



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System security. What design elements are in place that fall into the security realm? For example, how would an insider's attempt to manipulate election data be detected?

Defense in Depth . . .

- Physical security – Seals, locks, paper ballots, closed network
- Operating system – Hardened workstations, servers and devices
- Access security – Strong passwords, role based privileges, passcodes
- Data security – Strong cryptography, digital signatures, encryption, EQC
- Protected state based functions – firmware updates, supervisor functions
- Rugged and reliable – Tested to federal voting systems standards
- Voter verified paper ballots – Re-countable, independently software independent verifiable
- Event logs – Immutable audit logs on all systems



Slide 11

Alternative voting methods. Does the system support methods such as IRV, approval voting, and cumulative voting? If so, how is the software tested? If not, are there plans to support such methods? We would be interested in any experience you may have with these alternative methods.

Auditing support. What capabilities does the system have that support post-election auditing of election results?

DSB50

- 3 Bin High Speed Physical Ballot Sorting
- Unique Ballot Serial Number Imprinter

ElectionWare

- Ballots Table View
- Ballot Serial Number and Cast Voter Record Number
- Ballot View (Image and CVR)
- Table View Export
- Cast Vote Record Export
- Export Ballot Images and CVR Report



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Ballots – Table View

Filter List

Precinct: All

Poll Place: All

Machine: All

Ballot Type: All

Write-in: All

Blank: All

Ballots Printed: All

Ballot Exception: All

Cast Vote Record:

Apply Filter Reset

Status: Ballots - Table View

Find: Find Next Find Previous Highlight all Match case Export

Precinct	Precinct ID	Cast Vote Record	Serial Num.	Machine	Write-in	Ballot Ex.	Poll Plc
PRECINCT 0001	0001	38	060700001	D5860 - 030406007			0004
PRECINCT 0001	0001	36	060700002	D5860 - 030406007			0004
PRECINCT 0001	0001	40	060700003	D5860 - 030406007			0004
PRECINCT 0001	0001	33	060700004	D5860 - 030406007	Marked	Undervote	0004
PRECINCT 0001	0001	27	060700005	D5860 - 030406007	Marked	Overvote	0004
PRECINCT 0002	0002	43	060700006	D5860 - 030406007			0004
PRECINCT 0002	0002	37	060700007	D5860 - 030406007			0004
PRECINCT 0002	0002	28	060700008	D5860 - 030406007			0004
PRECINCT 0002	0002	32	060700009	D5860 - 030406007	Marked	Undervote	0004
PRECINCT 0002	0002	29	060700010	D5860 - 030406007	Marked	Overvote	0004
PRECINCT 0003	0003	31	060700011	D5860 - 030406007			0004
PRECINCT 0003	0003	39	060700012	D5860 - 030406007			0004
PRECINCT 0003	0003	36	060700013	D5860 - 030406007			0004
PRECINCT 0003	0003	41	060700014	D5860 - 030406007	Marked	Undervote	0004
PRECINCT 0003	0003	30	060700015	D5860 - 030406007	Marked	Overvote	0004
PRECINCT 0004	0004	26	060700016	D5860 - 030406007			0004
PRECINCT 0004	0004	80	060700017	D5860 - 030406007			0004
PRECINCT 0004	0004	46	060700018	D5860 - 030406007			0004
PRECINCT 0004	0004	49	060700019	D5860 - 030406007	Marked	Undervote	0004
PRECINCT 0004	0004	47	060700020	D5860 - 030406007	Marked	Overvote	0004
PRECINCT 0005	0005	44	060700021	D5860 - 030406007			0004
PRECINCT 0005	0005	34	060700022	D5860 - 030406007			0004
PRECINCT 0005	0005	46	060700023	D5860 - 030406007			0004
PRECINCT 0005	0005	42	060700024	D5860 - 030406007	Marked	Undervote	0004
PRECINCT 0005	0005	48	060700025	D5860 - 030406007	Marked	Overvote	0004

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Ballot View and CVR Report

Status: Ballots - Table View Ballot Viewer

Ballot Details

Cast Vote Record: 26 Serial Number: 060700016 Machine Serial: 030406007 Poll Place: EARLY VOTING Precinct: PRECINCT 0004 Ballot Style: PRECINCT 0004

Ballot: 1 of 1 to view

75%

Report: CVR Report

Cast Vote Record: 26

Poll Place: EARLY VOTING
 Precinct: PRECINCT 0004
 Ballot Style: PRECINCT 0004 [Sheet Number 1]
 Party: NONPARTISAN
 Serial Number: 060700016
 Machine Serial: 030406007
 Blank Ballot: NO

Contests:

- BEST AUTOMOBILE MANUFACTURER (26)
Vote For: 1
BMW (48) Counted
- BEST VOCAL ARTIST (29)
Vote For: 2
FRANK SINATRA (56) Counted
ELVIS (57) Counted
- BEST ICE CREAM FLAVR (33)
Vote For: 1
CHOCOLATE (65) Counted
- PROPOSITION 1 (34)
Vote For: 1
Yes (37) Counted
- PROPOSITION 2 (40)
Vote For: 1
Yes (41) Counted

Front 1

Customer Image: BMW English Only

Instructions

Making Selections



Do not touch oval or arrow, or your vote may not count. If you make a mistake or a stray mark, ask for a new ballot from the poll worker.

Optional write-in

or write-in: Ann

BEST AUTOMOBILE MANUFACTURER
Vote for One

- BMW
- MERCEDES
- GENERAL MOTORS
- HONDA
- FERRARI
- JAGUAR
- FORD
- VOLVO
- Write-in

BEST VOCAL ARTIST
Vote for No More Than Two

- FRANK SINATRA
- ELVIS
- PATSY CLINE
- JANIS JOPLIN
- BLODY HOLLY
- BARRY WHITE
- BILLIE HOLIDAY
- STRVIS RAY VRUGHAN
- "MAMA" CASS ELLIJOT

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Table View Export

A	B	C	D	E	F	G	H
1	Ballots						
2	BMW with results from 850						
3	Electionware County Electionware State						
4	March 12, 2016						
5							
6	Precinct	Precinct ID	Cast Vote Record	Serial Number	Machine	Write in Type	Ballot Exception
7	E.PRECINCT 0001	0001	38	0607000001	DS850 - 0304050607		0004
8	E.PRECINCT 0001	0001	36	0607000002	DS850 - 0304050607		0004
9	E.PRECINCT 0001	0001	40	0607000003	DS850 - 0304050607		0004
10	E.PRECINCT 0001	0001	33	0607000004	DS850 - 0304050607	Marked	Undervote
11	E.PRECINCT 0001	0001	27	0607000005	DS850 - 0304050607	Marked	Overvote
12	E.PRECINCT 0002	0002	43	0607000006	DS850 - 0304050607		0004
13	E.PRECINCT 0002	0002	37	0607000007	DS850 - 0304050607		0004
14	E.PRECINCT 0002	0002	28	0607000008	DS850 - 0304050607		0004
15	E.PRECINCT 0002	0002	32	0607000009	DS850 - 0304050607	Marked	Undervote
16	E.PRECINCT 0002	0002	29	0607000010	DS850 - 0304050607	Marked	Overvote
17	E.PRECINCT 0003	0003	31	0607000011	DS850 - 0304050607		0004
18	E.PRECINCT 0003	0003	39	0607000012	DS850 - 0304050607		0004
19	E.PRECINCT 0003	0003	35	0607000013	DS850 - 0304050607		0004
20	E.PRECINCT 0003	0003	41	0607000014	DS850 - 0304050607	Marked	Undervote
21	E.PRECINCT 0003	0003	30	0607000015	DS850 - 0304050607	Marked	Overvote
22	E.PRECINCT 0004	0004	26	0607000016	DS850 - 0304050607		0004
23	E.PRECINCT 0004	0004	50	0607000017	DS850 - 0304050607		0004
24	E.PRECINCT 0004	0004	45	0607000018	DS850 - 0304050607		0004
25	E.PRECINCT 0004	0004	49	0607000019	DS850 - 0304050607	Marked	Undervote
26	E.PRECINCT 0004	0004	47	0607000020	DS850 - 0304050607	Marked	Overvote
27	E.PRECINCT 0005	0005	44	0607000021	DS850 - 0304050607		0004
28	E.PRECINCT 0005	0005	34	0607000022	DS850 - 0304050607		0004
29	E.PRECINCT 0005	0005	46	0607000023	DS850 - 0304050607		0004
30	E.PRECINCT 0005	0005	42	0607000024	DS850 - 0304050607	Marked	Undervote
31	E.PRECINCT 0005	0005	48	0607000025	DS850 - 0304050607	Marked	Overvote
32	E.PRECINCT 0005	0005	18	0607000026	DS850 - 0304050607	Marked	Overvote

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Cast Vote Record Export

Cast Vote Record Export

Export Cast Vote Records

Include Write in Images
 Include Write in Images

Export Location:

Precinct	Ballot Style	BEST AUTOMOBILE MANUFACTURER (16)	BEST VOCAL ARTIST (12)	BEST ICE-CREAM FLAVOR (18)	PROPOSITION 1 (18)	PROPOSITION 2 (18)
18 PRECINCT 1	PRECINCT 1	<i>BMW</i>	undervote	undervote	undervote	undervote
19 PRECINCT 1	PRECINCT 1	FORD (31)	ELVIS (34)	undervote	CHOCOLATE (42)	undervote
20 PRECINCT 1	PRECINCT 1	undervote	ELVIS (34)	undervote	CHOCOLATE (42)	No (34) Yes (47)
21 PRECINCT 1	PRECINCT 1	<i>Volvo</i>	ELVIS (34)	undervote	VANILLA (44)	undervote
22 PRECINCT 1	PRECINCT 1	HONDA (26)	<i>Elvis</i>	STEVE RAY VAUGHAN (4 VANILLA) (44)	Yes (23)	No (48)
23 PRECINCT 1	PRECINCT 1	undervote	ELVIS (34)	undervote	STRAWBERRY (43)	undervote
24 PRECINCT 1	PRECINCT 1	FORD (31)	ELVIS (34)	BUDDY HOLLY (37)	STRAWBERRY (43)	undervote
25 PRECINCT 1	PRECINCT 1	BMW (25)	ELVIS (34)	BUDDY HOLLY (37)	STRAWBERRY (43)	undervote
26 PRECINCT 1	PRECINCT 1	<i>Volvo</i>	ELVIS (34)	STEVE RAY VAUGHAN (4 VANILLA) (44)	No (34)	No (48)
27 PRECINCT 1	PRECINCT 1	HONDA (26)	FRANK SINATRA (33)	ELVIS (34)	<i>Yes</i>	Yes (23) No (48)
28 PRECINCT 1	PRECINCT 1	FORD (31)	BUDDY HOLLY (37)	<i>Sunny</i>	STRAWBERRY (43)	undervote
29 PRECINCT 1	PRECINCT 1	BMW (25)	ELVIS (34)	undervote	STRAWBERRY (43)	Yes (23) Yes (47)

Precinct	Ballot Style	BEST AUTOMOBILE MANUFACTURER (16)	BEST VOCAL ARTIST (12)	BEST ICE-CREAM FLAVOR (18)
1 PRECINCT 0001	PRECINCT 0001	BMW	FRANK SINATRA	ELVIS
2 PRECINCT 0001	PRECINCT 0001	undervote	undervote	undervote
3 PRECINCT 0001	PRECINCT 0001	VOLVO	STEVE RAY VAUGHAN	"MAMA" CASS ELLIOT
4 PRECINCT 0001	PRECINCT 0001	VOLVO	STEVE RAY VAUGHAN	"MAMA" CASS ELLIOT
5 PRECINCT 0002	PRECINCT 0002	undervote	undervote	undervote
6 PRECINCT 0002	PRECINCT 0002	VOLVO	STEVE RAY VAUGHAN	"MAMA" CASS ELLIOT
7 PRECINCT 0004	PRECINCT 0004	BMW	FRANK SINATRA	ELVIS
8 PRECINCT 0001	PRECINCT 0001	undervote	undervote	undervote
9 PRECINCT 0004	PRECINCT 0004	undervote	BUDDY HOLLY	"MAMA" CASS ELLIOT
10 PRECINCT 0005	PRECINCT 0005	VOLVO	STEVE RAY VAUGHAN	"MAMA" CASS ELLIOT
11 PRECINCT 0005	PRECINCT 0005	VOLVO	STEVE RAY VAUGHAN	"MAMA" CASS ELLIOT
12 PRECINCT 0002	PRECINCT 0002	BMW	FRANK SINATRA	ELVIS
13 PRECINCT 0005	PRECINCT 0005	undervote	undervote	undervote
14 PRECINCT 0005	PRECINCT 0005	BMW	FRANK SINATRA	ELVIS
15 PRECINCT 0005	PRECINCT 0005	VOLVO	STEVE RAY VAUGHAN	"MAMA" CASS ELLIOT
16 PRECINCT 0005	PRECINCT 0005	undervote	undervote	undervote

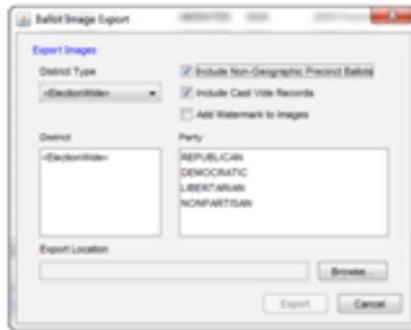
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Ballot Image Export

To export ballot images, and optionally Cast Vote Records:

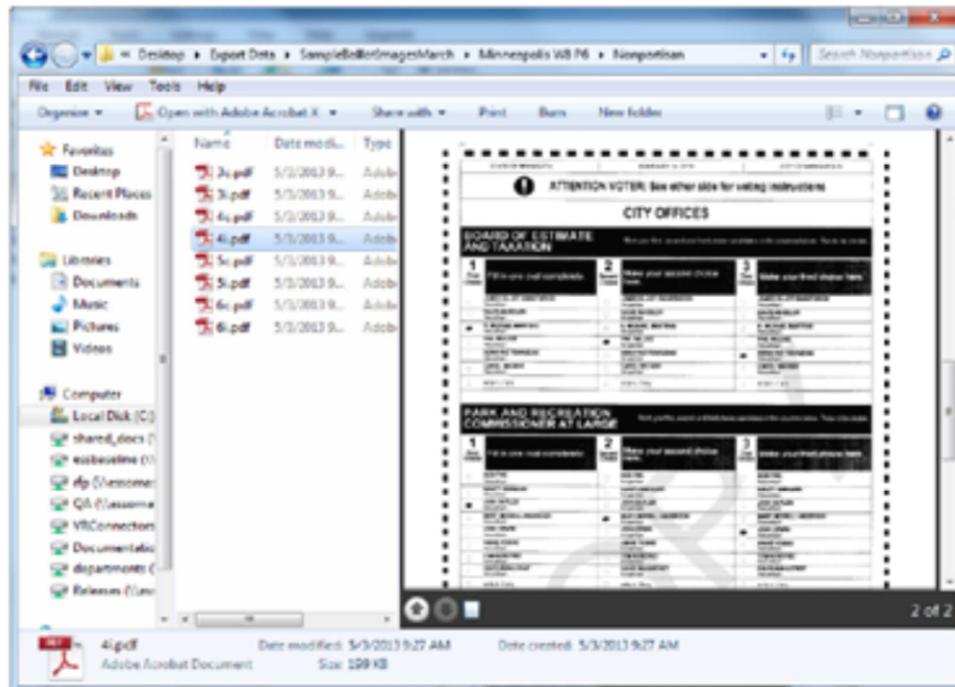
1. To export ballots images, select **Export Ballot Images** from the **Tools** menu.

The Ballot Image Export window is displayed.



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Export Ballot Images Report



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