Colorado Voter Access & Modernized Elections Commission
Final Report to the Colorado General Assembly
April 8, 2015

Introduction
This commission was created by Colorado Revised Statutes §1-1-115 upon the passage of House Bill 13-1303, the "Voter Access and Modernized Elections Act" ("HB 1303"). C.R.S. §1-1-115(6)(c) requires the commission submit a report evaluating the use of technology during the 2014 general election and include technical recommendations for the 2016 general election.

Colorado's flexibility in conducting elections is thought to be unique in the nation. The new election model allowed for all active voters to receive a ballot by mail, in person voting option for two weeks prior to and on Election Day, with an opportunity to register to vote or make an address change up to and on Election Day. In previous partisan elections, those who missed the registration cut-off or did not correct their address prior to going to the polling place were required to vote a provisional ballot. There was an improvement in voter turnout compared to 2010 and a substantial reduction in provisional ballots issued from previous general elections. While many states' turnout number declined, Colorado's improved and was the fourth highest in the nation.

The commission previously conducted needs assessments on voting and registration system technology and the current state of technology. A report with recommendations based on the two needs assessments was submitted to the Colorado General Assembly on January 15, 2014. Both needs assessments and the 2014 report can be found at http://www.sos.state.co.us/pubs/elections/CVAMEC/index.html.

Two subcommittees were established by the commission to carry out its duties, in response to the first needs assessment. The commission created the Business Practice Subgroup in response to the recommendation that business practices regarding elections must first be aligned prior to developing the technology to support those practices. The Technology Subgroup, led by the Secretary of State's office, considered various options to implement the voter registration changes adopted in HB 13-1303, and worked with the Business Practice Subgroup, the Secretary of State's office, and county clerks to develop, test, and implement a secure web-based application to support VSPCs in Colorado ("VSPC web app").

Evaluation of 2014 General Election
The Business Practice Group (BPG) conducted a survey of counties, gathered testimonials regarding clerk and recorders' experiences during the election, and compiled various statistics captured by the counties during the 2014 General Election. The survey's objective was to gather information about the 2014 General Election and compare it across all county tiers. The Business Practice Subgroup's report can be found at Appendices A through H.

The Secretary of State has contracted with the Bipartisan Policy Center to conduct an evaluation of the VSPC web app. The VSPC web app performed well during the testing phase and no

issues were reported during the two weeks VSPCs were open prior to Election Day. On Election Day, however, the VSPC web app was not functioning smoothly, with ongoing service interruptions reported throughout the state. The Bipartisan Policy Center issued a report, found at Appendix I.

Recommendations for 2016

Both the Business Practice Subgroup report and the Bipartisan Policy Center report include recommendations for 2016 and areas for further study. The COVAME Commission endorses the following recommendations made by the Business Practice Subgroup or Bipartisan Policy Center. Recommendations not listed in this introduction did not have consensus support.

The Commission endorses the following recommendations from the Bipartisan Policy Center:

Technical Recommendations
The technical recommendations fall into three main categories. First, there needs to be an increased diagnostic functionality in the system in order to correctly identify the root cause of issues that arise. Secondly, capacity of the network must be increased. Third, certain limitations on access to the statewide voter registration database are necessary to ensure that essential requests can be met on Election Day. Improvements in the log-on procedure will allow for more efficient connectivity for election officials.

Diagnostic

RECOMMENDATION 1a. Technical staff has recommended the implementation of diagnostic tools to identify exactly where the capacity problems occur. These tools allow for visibility of all transactions within the system to allow for better understanding when issues arise so that they can be identified and addressed.

RECOMMENDATION 1b. Staff should implement these diagnostic tools and employ them in future load testing and real election settings to identify more precisely where capacity problems exist.

RECOMMENDATION 1c. Load testing should be performed to identify the underlying cause of the problems accessing the statewide voter registration database. Given that a higher turnout presidential election will occur in 2016, load testing should reflect the greater demands on the system of a higher turnout election and utilize lessons learned in 2014 on how the counties utilized the system. The potential impact of the OLVR system during a presidential election should also be considered.

RECOMMENDATION 1d. Colorado has conducted mock elections in the past to allow election officials to simulate live voting at a VSPC. Colorado should combine this mock election with load testing to make the most realistic scenario possible, where election officials will be interacting with the statewide registration database at the same time it is under the stress of many transactions simulated by load testing.

RECOMMENDATION 1e. A review should be done to look at the estimated and actual number of simultaneous users attempting to access the statewide voter registration database. An extrapolation of the total number of users in 2014 and the number of attempted log-ons at peak times could prove to be illustrative when forecasting volume.

RECOMMENDATION 1f. A review should be made to determine if the inactivity period is too short and could be lengthened (training materials for the pollworkers note this will happen after 13 minutes, we were advised it was 30 minutes of inactivity).

Improve and Increase Capacity

RECOMMENDATION 2a. Increase system capacity at the browser and application levels. While there is no precise explanation for the problems on Election Day, some evidence points to a lack of capacity in these areas, and until a precise cause is determined, more capacity should be made available.

RECOMMENDATION 2b. Install load leveling patch that allows for better load leveling between the two systems, COVR1 and COVR2.

RECOMMENDATION 2c. Enable user authentication to be universal across the entire system thereby reducing users being kicked-off the network in busy times. As technical staff have recommended, authentication of the user should be moved from its current location between the web and application layers to the inception of the user's session so that a single session can then be load-leveled between COVR1 and COVR2 without authentication errors that expel the user. (A global load-site authentication.)

Limitations on Access

RECOMMENDATION 3a. Improve log-on procedures and train pollworkers on log-on procedures, internet browser use, etc.

RECOMMENDATION 3b. Establish a plan at the state level to limit and monitor connections.

RECOMMENDATION 3c. Better control and training on the use of various browsers and equipment that access the system.

RECOMMENDATION 3d. Determine standards for when it is appropriate for users to log-on to both SCORE and WebSCORE.

RECOMMENDATION 3e. Set guidelines for the periodic monitoring of users for capacity efficiencies.

RECOMMENDATION 3f. Reduce unnecessary strains on capacity during Election Day by limiting non-essential access to the statewide voter registration database.

RECOMMENDATION 3g. Review all reports and move nonessential reports to non-Election Day hours. Consider improved ways to provide information to political parties that does not unnecessarily strain the use of the statewide registration database during voting hours.

Contingency Planning
No matter how the problems that Colorado faced on Election Day 2014 are resolved, state and local election officials need improved contingency procedures to deal with any future issue involving the inability to access the statewide voter registration database.

BPC researchers were told by some county officials that the process of casting a provisional ballot takes "up to ten times" as long as casting a standard ballot. BPC recommends a process to develop improved and more efficient contingency procedures, including those concerning the use of provisional ballots.

RECOMMENDATION 4a. Explore options for counties to utilize a local dataset to process certain transactions on Election Day should the statewide system be unavailable.

RECOMMENDATION 4b. Reexamine rules regarding provisional ballots to determine if there are circumstances when a provisional ballot might not be necessary.

RECOMMENDATION 4c. Engage in a systematic study of the time it takes to cast a regular ballot, a provisional ballot, and other backup procedures for voting. County officials tell us that a provisional ballot may take as much as ten times as long to cast as a regular ballot. Testing of the time it takes to cast a ballot should be measured in simulated elections and at real elections to inform officials how long various backup procedures will take.

RECOMMENDATION 4d. Establishing at least one staff person at each VSPC with direct access to SCORE in the event that the WebSCORE application is not functioning.

Training

RECOMMENDATION 5a. Review the training from the 2014 cycle to identify areas for further improvement.

RECOMMENDATION 5b. Develop a comprehensive set of procedures and training to better inform pollworkers on how to use browsers, log-on, etc.

RECOMMENDATION 5c. Develop a comprehensive plan and training for pollworkers on the contingency procedures when the statewide database is not available.

Working Group
The working group should receive updates from technical staff on the progress of 1) diagnosing the underlying cause of 2014 issues with database connectivity, 2) load testing and the mock elections, 3) examining procedures for better contingency plans for when the statewide voter registration database is down including considering changes to provisional ballot procedures,

alternative backup procedures at VSPCs, and the development of a statewide contingency plan for all counties.

RECOMMENDATION 6. A working group should be created with representation from all stakeholders in the administrative realm. Stakeholders identified were: Department of State management; Department of State IT staff; SCORE Help Desk staff; Engility Corporation representatives; County Clerks (representing all tiers if possible); and County IT staff (representing all tiers if possible).

The Commission endorses the following recommendations from the Business Practices Subgroup:

Improve the Motor Voter registration
To begin, the motor voter program needs to automatically transfer voter registration information from the state driver's license program to the state voter registration system; this must include both in-office and online transactions. In addition, citizens should be asked not only if they'd like to register to vote, but also if registered voters would like to update their registration information if they're making a name and/or address change.

Currently, if a voter is already registered and making an address and/or name change to their driver's license, they are not asked to update their voter registration. Consequently, this information does not get transferred to the voter registration system.

Improve VSPC communications
Communications to all locations and Election Judge leads is challenging in larger counties. Including a messaging tool in the VSPC module or utilizing mass text communications should be investigated for future elections.

Improve password management
A number of counties found password management between systems to be cumbersome and difficult.

Improve test environment differentiation
A suggestion was made to make the sandbox or test environment a completely different color from the live environment. This would prevent counties from accidentally working in the test environment when they should be using the live application.

Increase 24 hr Ballot Boxes
Twenty-four hour boxes are extremely popular with voters. The cost of networking a camera and storing surveillance footage makes the installation of 24 hour boxes cost prohibitive in many medium and small counties and limits the number of boxes in some large counties. The BPG recommends that the surveillance policy for 24 hour boxes be reviewed and cost benefit analysis conducted. In addition to looking at the cost benefit, the policy specific to each tier and size of county should be examined.

Election Judge Recruitment and Selection

All counties reported challenges with recruiting the quantity and the quality judges need for the new election model. The BPG recommends the current process of recruiting judges through the caucus process be reviewed and a new process created.

Members of the Colorado Voter Access & Modernized Elections Commission

Suzanne Staiert, Commission Co-Chair, Deputy Secretary of State, Secretary of State Appointee
Elena Nunez, Commission Co-Chair, Colorado Common Cause, Governor's Appointee
Hilary Hall, Boulder County Clerk and Recorder, County Clerks' Association
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Jack Tate, Colorado House of Representatives, Joint Technology Committee
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