

Statewide Colorado Registration and Election (SCORE) Assessment



Program Assessment for the Colorado Department of State

December 19th, 2008

Produced by:



***Rebound Solutions
Consulting Corporation***

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1. Executive Summary

This document is an assessment of the Statewide Colorado Voter Registration and Election (SCORE) II Program which was implemented by the Colorado Department of State (CDOS) to fully comply with the Federal Help America Vote Act (HAVA). SCORE II is designed to:

- Protect the voter information of all registered citizens
- Maintain the integrity of the electoral process
- Enable county election officials to administer efficient, fair, and impartial elections
- Provide an audit capability; and
- Establish stronger coordination inherent in a centralized system

The implementation of SCORE has clearly transformed how elections are conducted in Colorado through a centralized structure and elections management system, moving counties away from a distributed and independent model of deployed legacy systems and associated business processes. The implementation of SCORE is significantly more than a new system or technology and has required significant changes within CDOS to accommodate new business support functions. Essentially, CDOS has become the service provider for the 64 counties which now depend on CDOS for the following services:

- Customer Support
- Training
- Policy Clarification (in terms of using the system)
- Process Standardization
- Technical Issue Resolution
- Data Extraction and Reporting

This assessment provides a historical perspective on the SCORE Program and also makes future recommendations for CDOS and the counties.

1.1. Purpose of the Assessment

This assessment is provided by the Rebound Solutions Consulting Corporation on contract with the Colorado Department of State. This assessment was written by William Browning who served as the Program Manager for the Score Program from March to December 2008. In this capacity, William provided the following services while reporting to Chief Information Officer (CIO) Trevor Timmons:

- Leadership of the SCORE Program Management Office (PMO) function including leadership and oversight of the core delivery functions, including:
 - County Relationships and Diplomacy
 - SCORE Election Operations
 - System and Application Development
 - User Acceptance Testing and CDOS System Acceptance
 - Production Operations and Performance Testing
 - Communication (Internal CDOS and External Constituency)
 - Direction of the SCORE Team – including CDOS, Dynamic Resources Corporation, Saber, Wyant Data Systems, and North Highland staff
 - Training Delivery

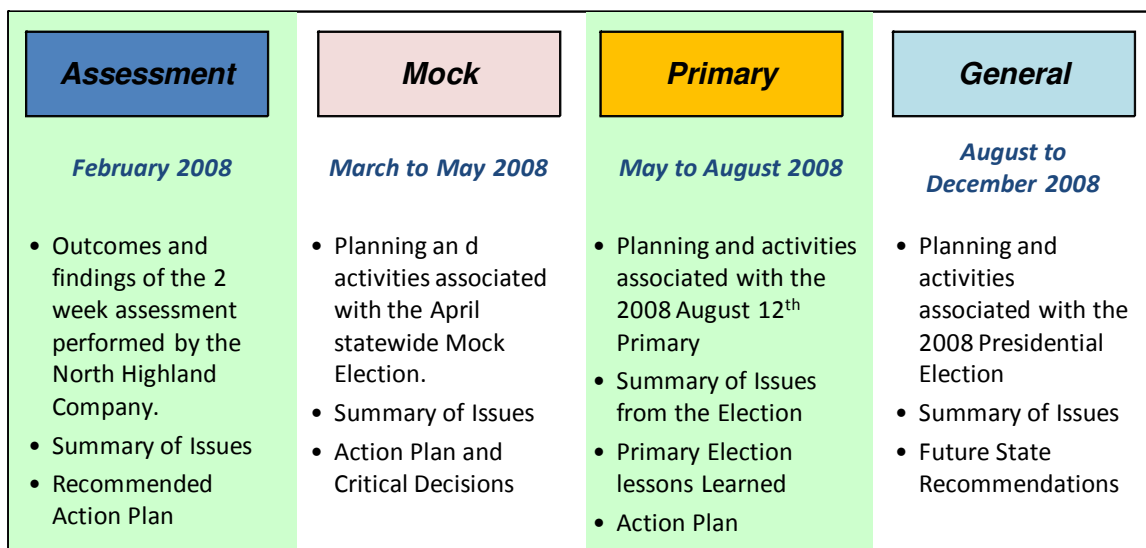
- Requirements Scope and Change Management
- Issue Management and Resolution
- Business Process and Policy Execution
- Network SWOT Operations and Support
- Management of the critical governance bodies, including the SCORE Steering Committee and the Change Control Board (CCB).
- Identification and prioritization of the key issues, defects and enhancements for release.
- Facilitation of key strategic business and technology decisions.
- Crisis management and coordination to resolve critical issues within the program.
- Operational business and technology contingency planning.
- Cross governmental-coordination, including management of resources assigned from the Executive Branch / OIT that may be asked to support this project.
- Coordination of the policy clarification and business process documentation.
- Preparation and management of key events and meetings, including EGC, Steering Committee, regional county events, CIMA, and other meetings.

William Browning was a consultant with The North Highland Company and was first hired to assess the SCORE Program on behalf of the Secretary of State and the Governor’s Office which was requested by the County Clerks. This assessment led Mr. Browning into developing the PMO and eventually a leadership role within the project. William officially joined the State as an employee on June 15th after separating from North Highland.

This report begins with the North Highland Assessment conducted in February 2008 and outlines four key phases of the program lifecycle below. In each phase, we will discuss the current state assessment of the team, project, and core issues. We will provide a summary of key events during these phases and conclude each section with the action plan that was executed by the team during this phase.

NOTE: The future state recommendations in Section 6.0 have not been operationally implemented and represent the opinion of Rebound Solutions Consulting.

The following figure describes the four major phases of this report.



A summary view of these phases in an operational context is shown below:

	Assessment <i>February 2008</i>	Mock <i>March to May</i>	Primary <i>May to August</i>	General <i>August to December</i>
Primary Issue	<i>Project Structure and Mission Focus</i>	<i>Conducting the Mock Election</i>	<i>Ballot Inventory</i>	<i>System Load; Media Scrutiny</i>
Public Scrutiny	<i>High</i>	<i>High</i>	<i>Moderate</i>	<i>Extremely High</i>
Team Stress	<i>High</i>	<i>Very High</i>	<i>Very High</i>	<i>Moderate</i>
Greatest Risk	<i>County Adoption</i>	<i>County Adoption</i>	<i>County Support</i>	<i>System Performance</i>
Challenges	<i>Time to Conduct Assessment</i>	<i>System Maturity, County Resistance, Junior Team</i>	<i>Ballot Inventory, PMIV Processes, Voter Move, Functional Scope</i>	<i>Operational Issue during Early Voting, Reporting, Balancing</i>
Defining Moment	<i>Action on Assessment Recommendations</i>	<i>Strong System Performance during Mock Election</i>	<i>Successful Completion of Primary Election</i>	<i>Successful Completion of Early Voting</i>

1.2. Scope of the Assessment

Specifically this report will provide the following:

1. Identification of remaining critical issues within the CDOS organization and the SCORE system.
2. Summary of team performance in responding to key issues and direction from the SCORE PMO.
3. Historical assessment of actions taken by the SCORE PMO and the CDOS Management during the aforementioned timeframe, including organizational change management elements.
4. **Most of this document provides a historical perspective. While this can provide insight into how the program was managed and why certain decisions were made, Section 6.0 of this report focuses on future recommendations.**

This report will not provide:

1. Performance management assessments of individual CDOS staff.
2. Detailed SPIRIT help desk ticket level metric reporting.
3. Assessments of individual county performance and issues relating to leadership at county levels.
4. Details on how the system functions.
5. Detailed results from performance, security and other tests.

1.3. Why the SCORE Program Succeeded

It is our opinion this program was not going to be a success if major changes were not made to the program in spring 2008. The transformation to one of the more successful programs in the State of Colorado was not a matter of good fortune or luck. This program was successful for the following reasons and these should be studied for other large scale programs in the State of Colorado.

1. **Empowered Program Leadership.** The program leadership, namely Trevor Timmons and William Browning were fully authorized and supported by Secretary of State Coffman and CDOS Leadership to act and act with resolve. The critical establishment of trust and accountability was the most important reason behind the success of the program. Trevor's leadership combined with a tough PMO approach provided a partnership that effectively identified and mitigated risks, issues and problems.
2. **Mission Focus.** The PMO elevated SCORE from a project to mission. This was not simply about implementing software but was about protecting the integrity of our State. Once this cultural mission was infused within the team, the team was simply unstoppable and successfully completed the scope of the mission by working together.
3. **Performance Management.** The SCORE PMO managed each team member on a week to week delivery basis. Every team member had defined roles, expectations, and associated deliverables. They were recognized by going beyond these expectations and were held to account if they didn't meet objectives.
4. **County First.** The SCORE PMO held the counties in the highest regard as the customers. The active management of the county issues was absolutely vital in the success of this program. Counties were heard, respected, and response to county needs was the only true responsibility of the team.
5. **Ruthless Scope Management.** The SCORE PMO wouldn't allow trivial issues and other distractions to impact the delivery of the system. Simply put, the SCORE PMO actively managed risk and declined most requests from the counties for additional functional enhancements. The counties may not have always liked the answer but they knew the reasons behind these decisions. Decisions were usually made within 72 hours for most requests. This is not in contradiction to putting the county first. In contrast, by limiting scope, the PMO could focus on the highest priorities for the counties.
6. **Saber.** Saber has received some unfair scrutiny but they deserve full credit for going well beyond expectations. They were flexible, supportive, and an instrumental partner in this program. They adapted with full cooperation to the new PMO and were a great partner in solving complicated issues. The high quality of the Saber personnel is considered one of the key critical success factors.
7. **The Team.** The team assembled for this program was a dedicated group of professionals who were absolutely committed to the mission. Without this team and the senior leadership within CDOS, this program would not have successful. Vendor partners Wyant Data Systems, DRC and North Highland were also instrumental in this success.
8. **The counties.** While the State should take credit for the successful delivery of this program, the counties were the real reason for the success. Their level of commitment and integrity delivered a successful election. The County Clerks simply would not allow for this election to fail.

1.4. Summary of Future State Recommendations

We have provided a series for recommendation for the future state of Elections in the State of Colorado in Section 6.0. These recommendations range from improving SCORE to evaluating enterprise opportunities within the State.

We believe the status quo must be changed for the future of our state. The focus on running an election in a more financially effective manner will become a greater priority and focus for the state and counties. There is much that can be done to immediately and profoundly improve election operations and help Colorado become a beacon of excellence in elections management and thought leadership.

If no other recommendation is heard from this report, we firmly support a process design exercise to standardize election processes. This foundation can then provide the groundwork for improving the rules and statutes as well as system functionality.

We make our bold recommendations in Section 6.0 for the new Secretary of State as we believe the foundation is in place for significant and progressive transformation.

2. Phase 1 – The Assessment (January 31 to April 1st)

Assessment

February 2008

- Outcomes and findings of the 2 week assessment performed by the North Highland Company.
- Summary of Issues
- Recommended Action Plan

This phase outlines the findings from the independent 3rd party assessment performed by the North Highland Company in February 2008.

We describe why and how the assessment was performed and the subsequent action plan taken from this assessment.

Understanding this assessment and the outcomes are critical in relating to the longer term strategic operation of the SCORE Program.

It is critical to understand this includes not only the first and public phase of the assessment, but the subsequent 2 weeks where William Browning was contracted to provide some additional organizational change management consulting.

William Browning was the lead for both the public assessment and was contracted to help CDOS make some key organizational changes to better support the program.

2.1.1. The North Highland Assessment Overview

Under pressure from several county clerks about the deployment of the SCORE system, the Governor's Office of Information Technology (OIT), under the leadership of State CIO Mike Locatis, requested The North Highland Company to perform an aggressive 3 week feasibility assessment of the SCORE II program. This assessment was a joint effort of the Governor's Office and the Secretary of State. William Browning was designated the leader of this engagement due to his experience providing immediate, objective and qualitative assessments for the State.

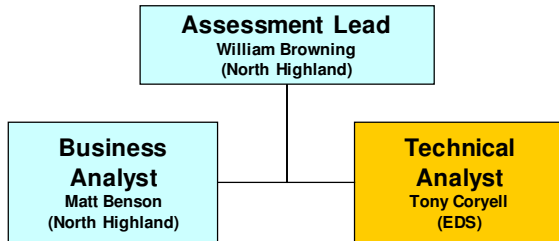
The statement of work was signed and approved on January 31st, 2008 and consisted of the following key questions to be addressed by the team:

1. Is there any evidence to suggest that the SCORE system does not work?
2. Is there any evidence to suggest that the system will not meet the transactional load requirements?
3. Is there any evidence to suggest that the state-wide deployment of the VR function will fail?
4. Is there any major functionality that is untested or being released late?
5. Is scope clearly defined for the duration and deployment of the project?
6. Is their sufficient organizational capability to successfully deploy this system by the Fall 08 elections?

The engagement started in early February and provided a final report on February 25th, 2008. The following sections outline the structure of the assessment, approach, and key findings.

2.1.2. Assessment Team

The figure below illustrates the team that contributed to the assessment. The team quickly and efficiently interviewed and involved key stakeholders from the State, County as well as other Saber Electus product users in other states.



Role	Responsibilities
Assessment Lead	<ul style="list-style-type: none"> Manages the assessment Quality assurance Deliverable production
Business Analyst	<ul style="list-style-type: none"> Management and consolidation of county feedback Functional SCORE SME
Technical Analyst	<ul style="list-style-type: none"> Management and consolidation of technical options Technical SCORE SME

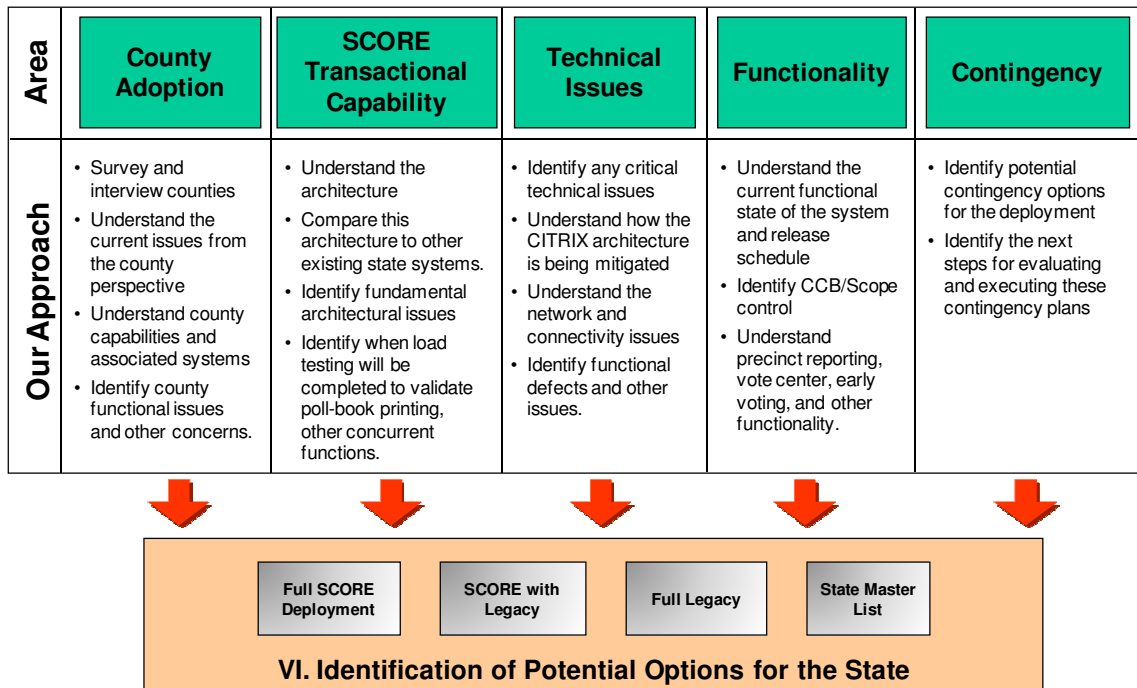
Other Valued Contributors

- Trevor Timmons – CIO, State
- Pamela Campos, Governor’s Office of Legal Counsel
- Leigh-Anne McDonald, SCORE II Project Manager
- Puneet Agrawal, SCORE Project Manager
- Scott Lee, Wyant Data Systems (IV&V)
- Steve Way, Saber – Maryland SCORE Project
- Holly Lowder, Elections - State
- Todd Olson, DPA
- Saber Senior Management
- Howard County, Maryland
- Maryland Secretary of State
- County Staff
 - Adams
 - Arapahoe
 - Chafee
 - Delta
 - Denver
 - Douglas
 - El Paso
 - Jefferson
 - Larimer
 - Mesa
 - Pueblo
 - Weld

2.1.3. Assessment Approach

The approach was designed to be thorough as possible. While a short and aggressive assessment could not be comprehensive, the following approach as illustrated on the next page was used to identify and address the key questions from **Section 2.1** above.

It is important to note this assessment was focused on viable alternatives to implementing SCORE. While most county clerks believed the SCORE system would eventually be the future system for the State, there was significant concern and active resistance to implementing SCORE during a Presidential Election year. Counties wanted to use their existing legacy systems for critical election management functions.



We believed at the time there were four key options for the State when the assessment began and the focus was on how we could meet HAVA compliance with these four options. Most of the HAVA compliance issues address voter eligibility and the voter registration and verification elements. Therefore our initial thinking was to have SCORE provide voter registration and verification functions while allowing counties to use their legacy systems for the election management functions such as ballot inventory, early voting, and general election management.

There were major issues with this “flexible option” that were quickly identified. First, nearly 50% of existing counties were no longer using a legacy system. Therefore they had to use SCORE for the election so State was already committed to having a major implementation for the SCORE system regardless of other options. Secondly, the integration between voter registration and other critical elections functions is impossible to segregate. Integration of a legacy system to SCORE required significant customization of both systems.

The team conducted an evaluation of other states that had implemented the Saber Electus product, namely Maryland, as this was absolutely critical in the understanding if the system would meet the business demands of a Presidential Election. During this assessment, the following was completed:

1. Interviews with all large counties and a total of 28 counties.
2. Interviews with the State of Maryland and Howard County.
3. Technical assessment of the SCORE II Citrix architecture.
4. Deep technical analysis of each alternative to the full deployment of SCORE.

5. Interviews with project and CDOS leadership.
6. Interviews with IV&V and Saber management.

2.1.4. Critical Findings

We believed at the time that full deployment of SCORE was the only viable option but recommended significant changes to how the program was to be managed and organized.

Key Question	Findings Based on Information to Date
Is there any evidence to suggest that the SCORE system does not work?	<ul style="list-style-type: none"> ▪ This is a COTS solution that has been used in other states – although Colorado has customized this solution. ▪ There is no evidence to support major data architecture or application functionality faults at this time.
Is there any evidence to suggest that the system will not meet the transactional load requirements?	<ul style="list-style-type: none"> ▪ The architecture supports other state election functions – Maryland was provided by Saber as a state with similar loads. ▪ Performance testing is being planned that will allow Colorado to adjust infrastructural capabilities if necessary.
Is there any evidence to suggest that the state-wide deployment of the VR function will fail?	<ul style="list-style-type: none"> ▪ Counties are using this functionality today without any major issue.
Is there any major functionality that is untested or being released late?	<ul style="list-style-type: none"> ▪ Election Worker and Petition Management are being modified for the 3.5 release. ▪ No other major functional pre-election releases planned.
Is scope clearly defined for the duration and deployment of the project?	<ul style="list-style-type: none"> ▪ Scope could be tightened for the 2008 elections. ▪ There are too many lower level change requests taking cycles.
Is their sufficient organizational capability to successfully deploy this system by the Fall 08 elections?	<ul style="list-style-type: none"> ▪ No – this is the most significant and immediate impact to the deployment at this time.

The foundational finding and the most important element of the assessment was centered on the **fundamental business operational change** required by CDOS to implement the system. We recommended a dramatic shift to prioritize the team and program efforts on county adoption. While the project plans and schedule looked good on paper, the counties were failing to implement the system and CDOS was not supporting the implementation sufficiently.

CDOS had not realized it was now the service provider for 64 counties. Counties were moving to a centralized system without adequate training and customer support.

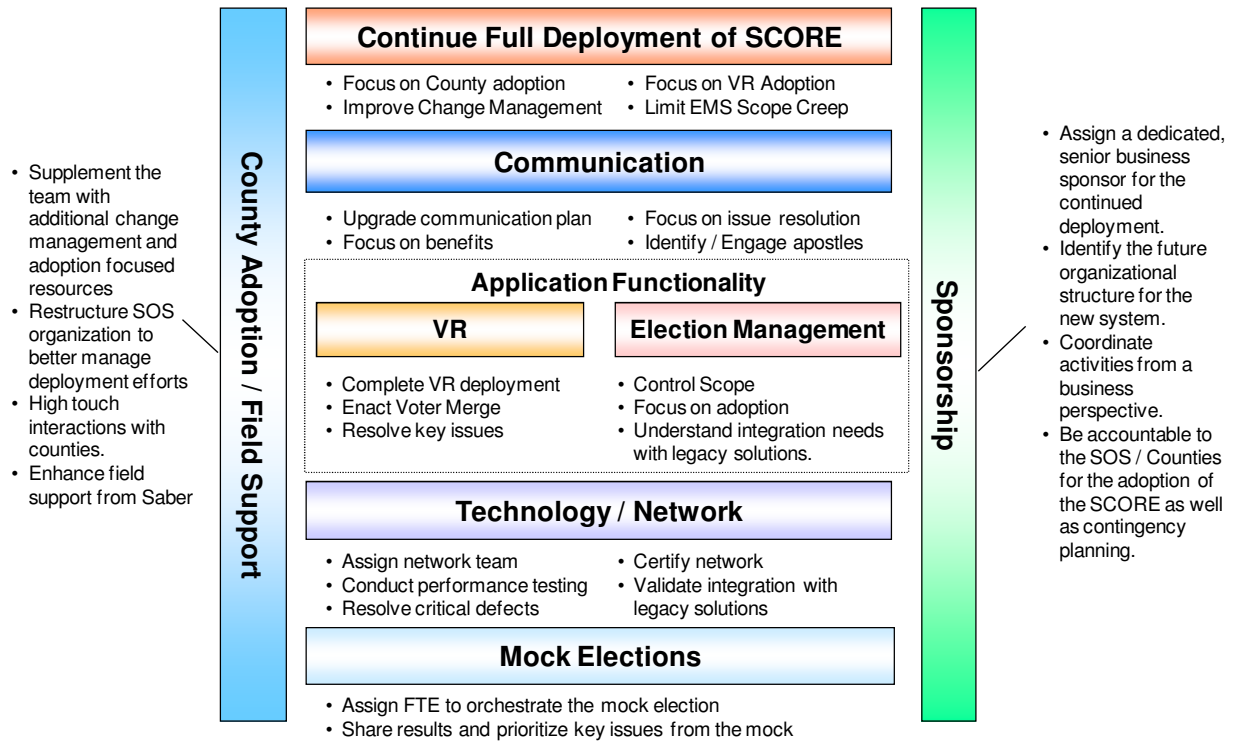
The following illustrates the recommended scenario (full SCORE deployment) for moving forward and at the time there was belief that counties could fall back to a legacy system if necessary. While this option was later eliminated due to the yet unforeseen voter move issue, it was put forward at the time as a viable contingency option.

Scenario		What Has to Happen	
<ul style="list-style-type: none"> All counties use Score as their Voter Registration (VR) master source of eligible voters. Qualified counties use their legacy elections management (EM) system to execute the '08 election, and the remaining counties continue to use Score for VR and EMS functions. 		<ul style="list-style-type: none"> All counties must migrate/adopt SCORE VR. State-wide voter data merged for duplicate records. Counties only use SCORE for VR; SCORE must work. Qualified counties need to be identified. County based-IT and Legacy System staff need to be engaged Legacy system IT support and licensing may need to be extended for qualified counties. Processes for how counties (if necessary) are going to sustain parallel operations effectively must be defined. Processes for data synchronization must be architected, designed, developed and tested. Data audit processes built for integrity checks 	
Concept			
<ul style="list-style-type: none"> Selected (qualified) counties will be allowed to use legacy systems. All voter data is entered into Score and exported to existing legacy systems for these qualified counties. Counties synchronize voter data "as needed" during the election window. Election participation history is uploaded into to Score from Legacy after the election. 			
Benefits	Risks	Costs	Staff
<ul style="list-style-type: none"> HAVA Compliant SCORE deployed for most counties with VR function fully deployed. Could reduce field support staff qualified counties use legacy. Allows counties to have an out to a trusted elections system Solution can be leveraged across legacy system platform – Votec, Sequoia, etc... 	<ul style="list-style-type: none"> Impact on county resources to design, test legacy interfaces. More counties that go to legacy will have longer term impact to SCORE project deployment. Customization by counties and their vendor legacy systems. Doesn't mitigate current SCORE performance issues. Increases QA cycles to validate data. Doesn't mitigate transactional load for voter registration functions. 	<ul style="list-style-type: none"> Extension of Saber development support. Additional Staff – Field Support, Change Management, Network Continued legacy licensing and operational costs (County) Costs for legacy systems changes pushed to counties – moderate costs (County) 	<ul style="list-style-type: none"> Estimated additional 13 FTE required to support the deployment. Realignment of SOS management team Additional county resources required for legacy integration Continuance of Saber through October to support legacy integration.

In addition, the assessment provided the following programmatic suggestions for continuing full deployment which required significant investment in the following personnel:

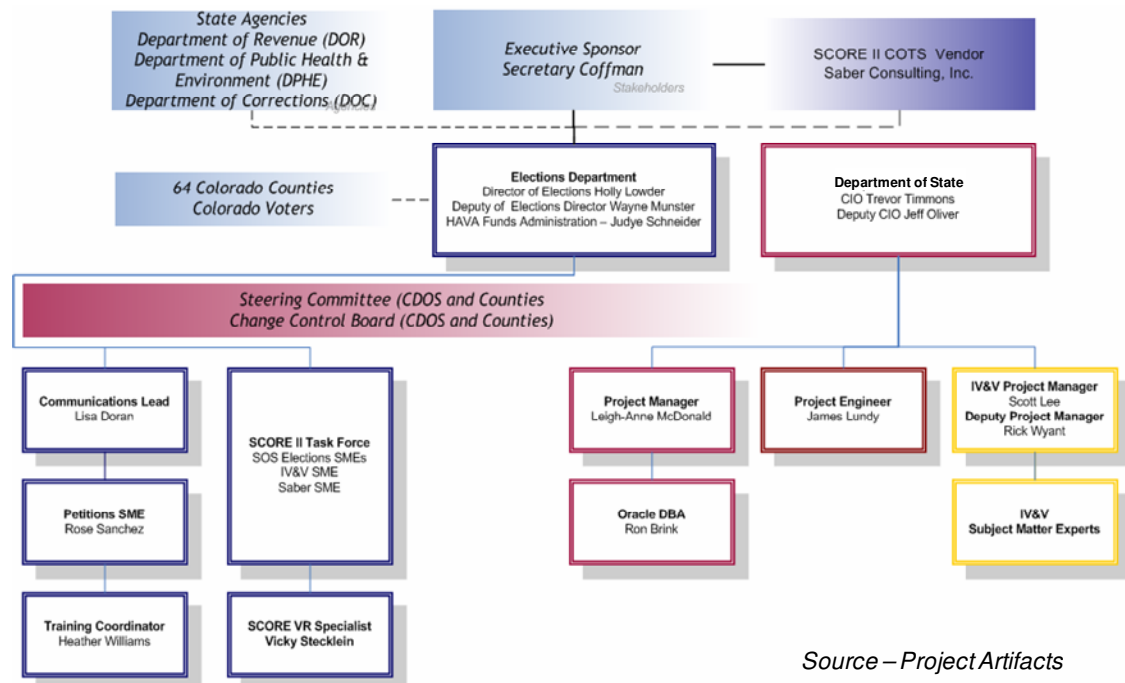
1. Regional Field Support representatives
2. Mock Election Consultant
3. Network SWOT Team
4. Policy Expert – dedicated to SCORE

The following illustration outlines the key components of the recommended option.

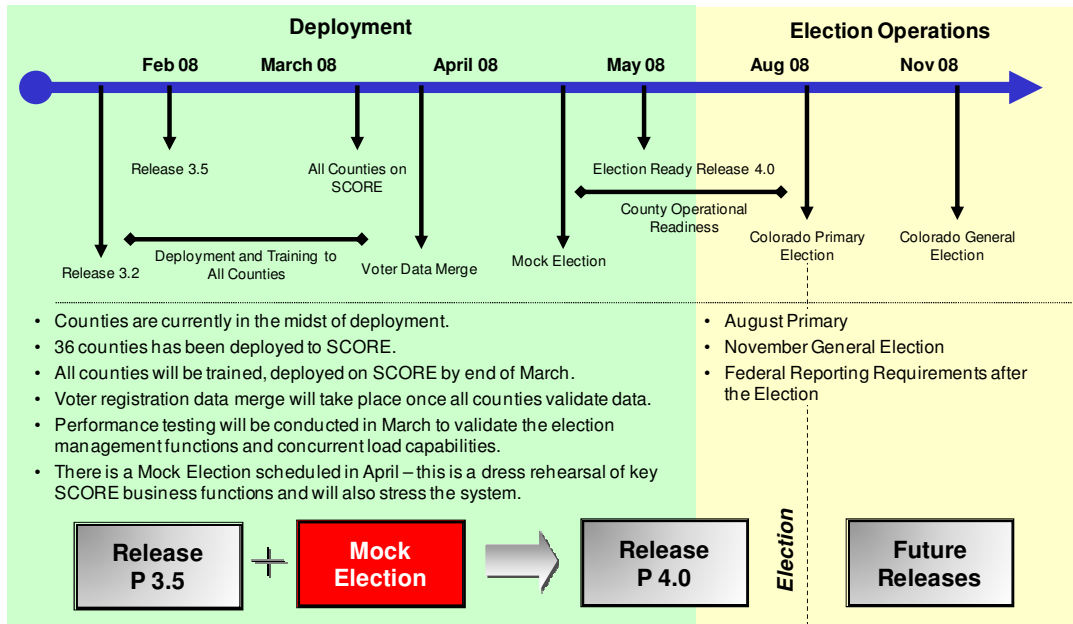


2.2. SCORE Project Structure

It is important to understand the project structure at the time of the assessment which is illustrated below. This model was focused on system development – not on implementation and support.

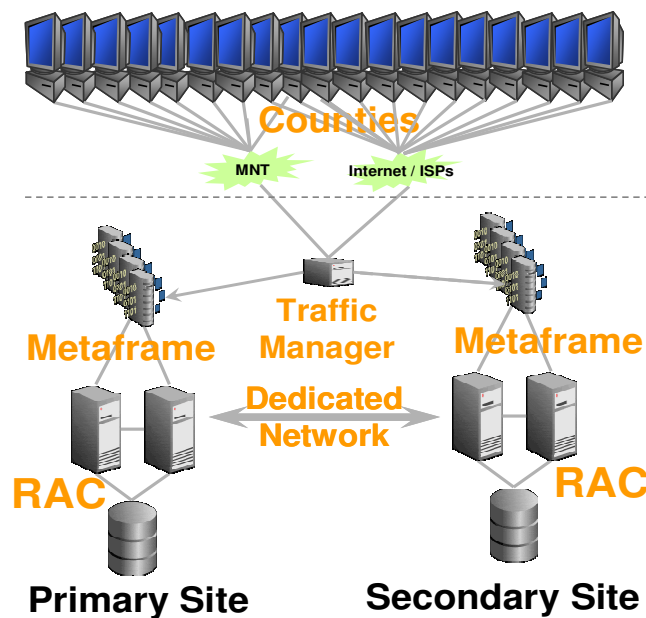


As noted earlier, the project was well suited for an implementation but not for a state-wide deployment. The project schedule is illustrated below:



2.3. SCORE Technology Architecture

In essence, SCORE replaces decentralized county-based legacy voter management and election system architecture with a single state-wide system. This centralized solution is a Citrix-based application hosted on a “hot hot” load balanced failover platform. The high level architecture is provided below:



This centralized model has an Achilles heel. It depends completely on network connectivity and performance. Counties have a host of network components in play, including LAN and WAN hardware and use a variety of Internet Service Providers (ISP), creating a vast geographic architecture that wasn't being effectively managed.

The assessment identified network connectivity support as a critical success factor and this was proven to be a challenge repeatedly for the program as it moved through the election cycles.

2.4. Initial Action Plan

A simple action plan was initially provided from the assessment and is provided below.

Organization	Network	Contingency	Funding
<ul style="list-style-type: none"> Staff the project team with additional FTE to support the adoption for the counties, including: <ul style="list-style-type: none"> Full Time Business Sponsor Adoption Manager Mock Election Coordinator Change Management Staff Field Support Operations (Saber) Network Operations Additional Data Architecture (Saber) for contingency Establish more formal, structured communication with the counties. Refocus the CCB so it is more focused on strict scope management. Regionalize change management Enable "high touch" deployment for the counties. 	<ul style="list-style-type: none"> Coordinate a network SWOT team to identify and mitigate existing network connectivity issues. Coordinate and prioritize DoIT / MNT resources to support the network SWOT team. Certify network architecture (Saber) in conjunction with testing. Identify network contingency operations. 	<ul style="list-style-type: none"> Contingency for each type of scenario needs to be updated. Qualifications for counties that are not going to adopt SCORE EMS functionality need to be determined immediately. Counties need to "buy in" to the contingency operation as a last resort – not as an immediate option. Contingency expectations need to be clearly defined and communicated to counties. 	<ul style="list-style-type: none"> Funding options for extending the contract and hiring of contracted and permanent staff is first priority. The business case for this increased funding needs to be developed and communicated. All funding options should be explored and then if funding can not be appropriated, appropriate contingency needs to be adopted.

This initial plan was enacted in March 2008 and CDOS initiated the following recommendations based upon the initial assessment.

1. A Mock Election Consultant was hired to manage the April Mock Election and provide county expertise to CDOS.
2. Hilary Rudy was hired as a policy expert to provide statutory interpretation and policy support for the deployment.
3. Saber Field Support was hired starting in April 2008 to provide on-site regional support to help the counties adopt the solution.
4. William Browning was extended to provide a 2 week assessment of how to best organize the SCORE II team for the longer term.

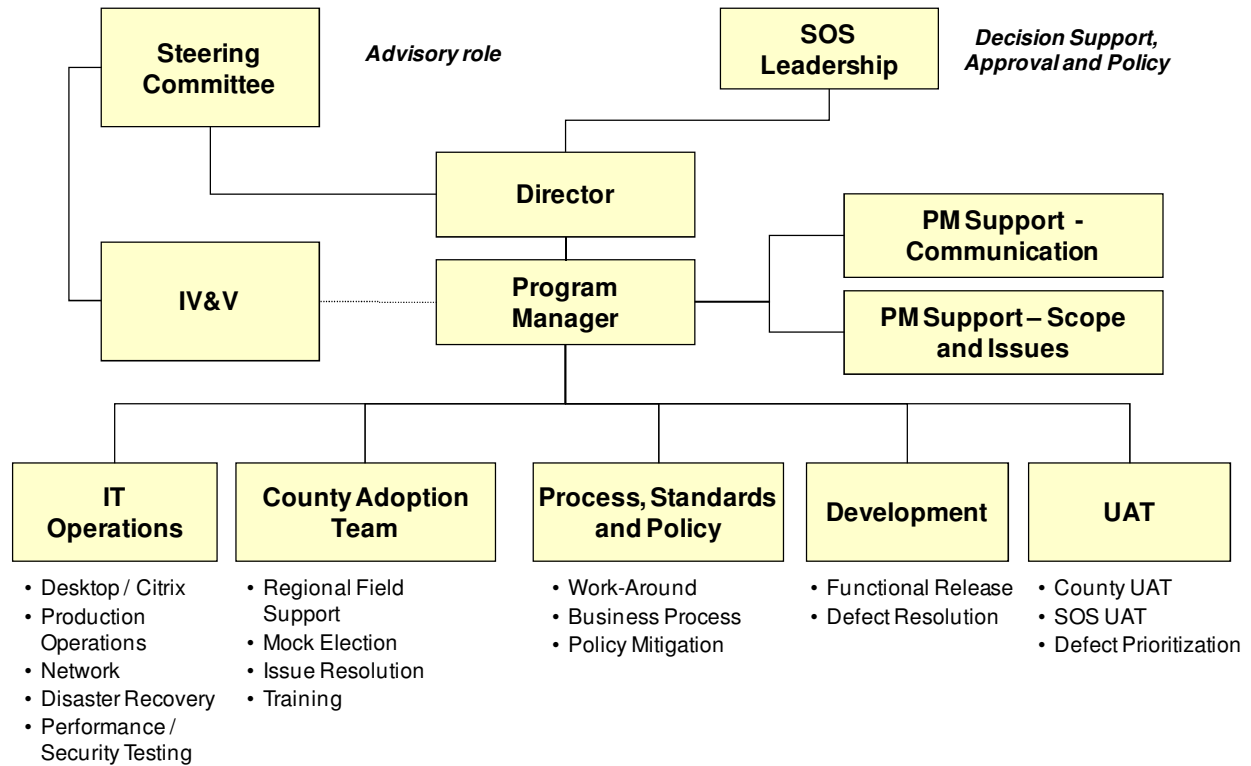
2.5. Post Assessment Findings

William Browning completed the organizational recommendations a few weeks later and this consisted of a very direct review of the project organization and performance. These recommendations were provided to CDOS Leadership on March 20th and determined the SCORE project was likely going to fail based upon the following:

- There was insufficient understanding of the full scope of the system.
- Most counties were in a “red” state regarding the election management functions. Most if not all counties required massive retraining on all of these modules.
- The Counties were likely to “revolt” if things didn’t improve on the ground and CDOS didn’t aggressively begin to meet county needs.
- Critical functions were just being defined and were not scheduled for release until 60 days before the Primary.
- There was no sense of ownership within CDOS over some of the core issues and they were not being resolved.
- Critical decisions regarding technology architecture, business process, disaster recovery, and other elements were not being made effectively.
- The project was not being governed effectively. Steering Committee roles were not clear. The current project manager was not representing the needs of the state or counties. There was no sense of “who is running the show.”
- Vendor responsibilities were unclear, including the release schedule.
- Customer support for counties was ineffective.
- Counties didn’t have a sufficient ‘life line’ to CDOS. Field support from Saber will not be sufficient alone to mitigate this.
- There was no clear prioritization. There was no sense things are getting better on the project.
- Current managers and leaders were carrying baggage that doesn’t allow them to fully lead. An infusion of focused, disciplined leadership was now required.

This information was well received by CDOS leadership who didn’t debate the findings but proactively and aggressively worked on an action plan to abate the project trajectory. The critical element was an immediate reorganization of the project team and the following transformation to a command and control PMO and Director Model. The leadership team, including Secretary Coffman, acted quickly and wisely to implement the necessary and immediate changes.

This organizational structure established a PMO to manage the operation which reported directly to Trevor Timmons who was provided more decision making authority as the Director of the Program. This was a vital element in preventing bureaucratic hold-ups on critical decisions. The proposed organizational model was illustrated below:



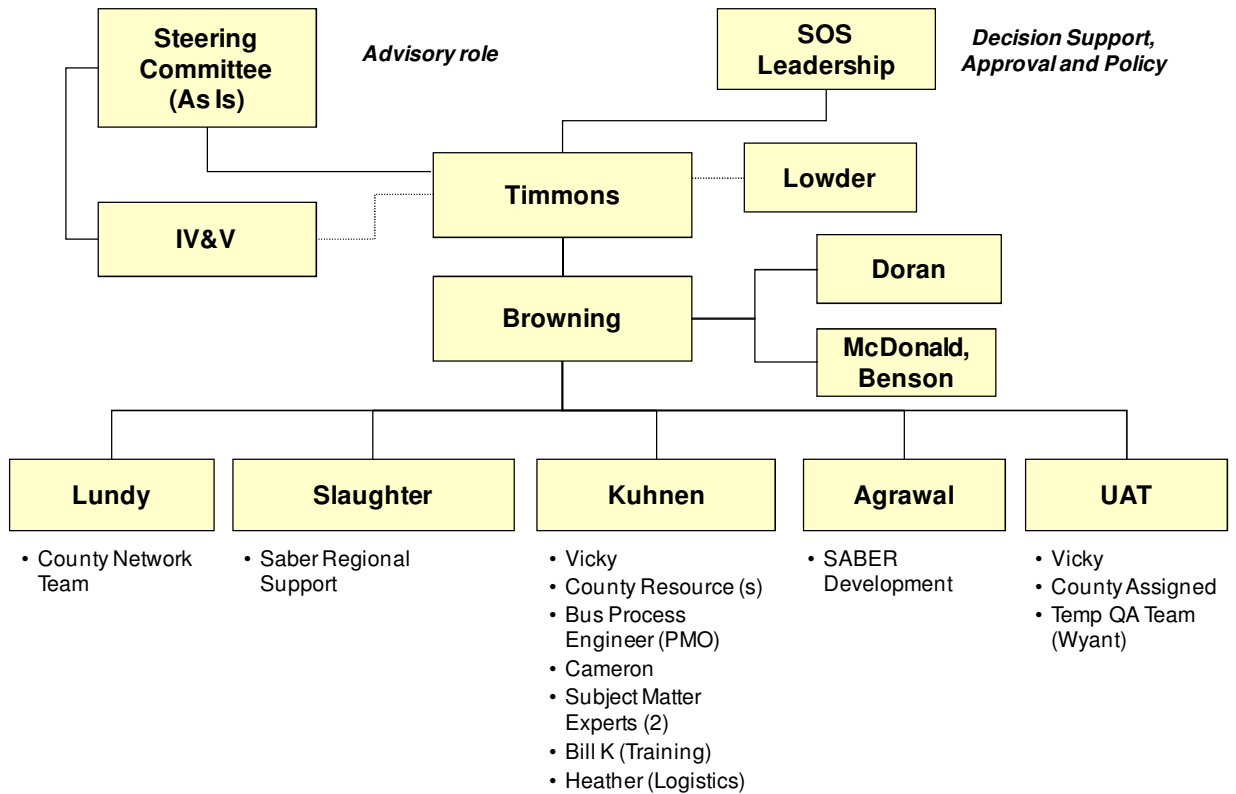
2.6. Actions Leading Into Mock Election Phase

CDOS Leadership effectively and quickly responded to the March findings and reorganized the project into a program with an objective on coordinating a successful Mock Election in late April 2008. The key actions included:

2.6.1. Organizational

1. William Browning was contracted as the Program Management Office (PMO) Manager with a focus on building the PMO capabilities and leading the daily operational elements of the program.
2. The process to identify a company to provide network SWOT was started but Dynamic Resources Corp (DRC) was not hired until May 2008.
3. Matt Benson, a North Highland Consultant, was hired to support the PMO with a focus on critical issue identification and resolution.
4. The CDOS Tier 2 team was formed from the existing CDOS staff and was setup to provide direct customer service for the counties. This was a compliment to the existing Saber Help Desk service based in Portland but this unit was focused more on advanced issues with the system.
5. The Field Support team was hired and positioned within the state and reported into a dedicated senior manager provided by Saber.

The following organizational chart reflected the SCORE Program as of April 1st, 2008.



2.6.2. Programmatic Actions

Key actions were taken during this phase and were not limited to the following:

1. A weekly action log was started by the PMO and was publicly provided to counties and constituents.
2. The Steering Committee was expanded to include OIT and Hilary Hall from Boulder County.
3. Additional investment in production operation infrastructure was made to improve database and transactional capability.
4. The communication plan was revamped with multiple channels created for better and timelier communication to counties.
5. The program focus was placed upon the Mock Election with the team working to support Jan Kuhnen as the leader of this exercise. Mock Election planning started immediately with the development of business scenarios for each stage of the Mock Election (more in Section 3.0).
6. The CDOS Tier 2 group was provided with a toll free number for county access.

2.6.3. Risks and Issues (As of April 1st, 2008)

The following risks were identified and actively managed during this time.

1. Many counties were resisting the system implementation; many of them were maintaining legacy systems in parallel.
2. The current release still had significant functional gaps and defects.
3. The Mock Election would be either the validation point for the program. If it failed, a new strategy would likely be required to move it forward.
4. There were some team members who were resistant to internal changes and frustrated with the new PMO model.
5. The relationship between the previous project manager and the Saber PM could have been better. This resulted in immediate tension with the new PMO.
6. Many team members were new and there was a general sense the program would not be successful. The morale on all parts was low.
7. Media and external other groups were assailing the program on a regular basis, further eroding morale and providing distractions.

2.7. Phase Conclusion

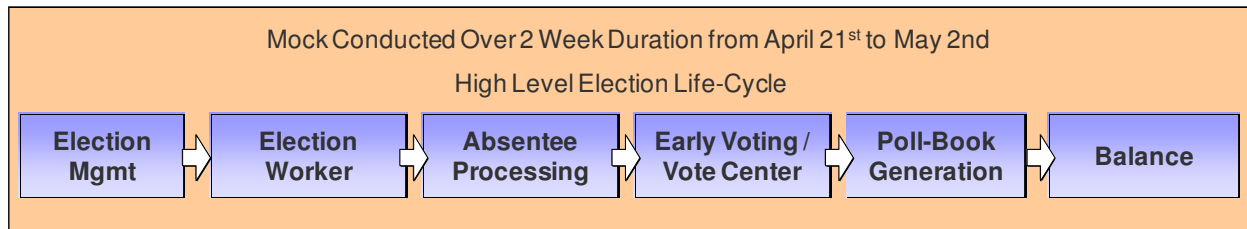
The assessment and subsequent corrective action taken during this stage in the project was critical in the program's eventual success. CDOS senior leadership should be recognized for making this decision to support an unpopular assessment which temporarily halted the project and put a magnifying glass on the Department. Despite this, Secretary of State Coffman and his senior management team were gracious in not only allowing the assessment but responding immediately to the actions proposed by providing the necessary executive support. The SCORE program's success was determined in March and April 2008 and it was largely due to the State recognizing changes were necessary and taking all necessary steps to act on the recommendations. This willingness to improve operations and assess the team's performance was a critical success factor during this and following phases.

Looking at the findings of the assessment in December, it is clear the assessment while identifying key elements for the program change, clearly missed some key elements that we didn't forecast. They include and are not limited to:

1. **Complexities of cross county voter data management (Voter Move).** Identified in Section 3, this issue identified during Mock Election would have limited other options considered by the state. Full deployment became the single reasonable option as the integration alternatives were impossible due to this issue.
2. **Functional Gaps.** The system was not close for production release. Release 3.5 issued before the Mock Election was not sufficient for meeting the Primary. Several releases were required for use with the both elections. The assessment failed to identify Permanent Mail-In Voters (PMIV) and the Provisional processes which were not scheduled for development.
3. **Data Migration.** Data migration was not completed to satisfaction and while all counties were on-line in April, there was still significant data migration activity required in May through July.
4. **Production Stability.** While the assessment identified production operational issues, the assessment should have advocated much stronger language about performance testing and improving productions operations procedures. While the PMO monitored this program component, it was never managed at a sufficient level of priority which proved consequential in the General.

5. **Reporting.** The assessment under-estimated the issues with data extraction and reporting. This proved to be a massive issue for the PMO and if the assessment had better understood this need, customized extraction and other programs may have started well before the Mock Election.
6. **Requirements.** The SCORE system didn't have a sufficient requirements documentation and the assessment should have recommended building standardized business processes.

3. Mock Election (April 2nd to May 15th)



The following section describes all of the efforts required to support the Mock Election conducted April 21st to May 2nd. This includes key organizational and programmatic actions, results, and concludes with the state of the program before the Primary Election.

3.1. Focus on Mission, Accountability and Performance Management

It is critical to understand at this point in the program the culture of the program team needed to shift to a mission and away from a standard project. The mission perspective was required to address the energy, commitment, and dedication required from the team moving forward but also to instill a level of discipline within the organization. Our mission moved from implementing software to changing how elections are conducted in the State of Colorado. Our key tenants to the team included:

- While historical context is important, what's in the past is in the past. Our focus must be on the future.
- Everyone has value and reason for being on this project. We need everyone to be engaged, committed, and show respect to one another. This is going to be a difficult road without internal strife and conflict. Years from now, you will speak about how great this team was and all that you did together.
- Venting is allowed. Just not in public.
- Speak your mind but do so constructively.
- Come with solutions – not just issues.
- Listen and understand before reacting.
- Focus on the priorities. “We are trying to save the patient”
- There is no “vendor” or “state” or “contractor” – we are a project team.
- Respect the counties. They are the end game.
- You are here because you are the best team for the job.

In addition to this messaging, the command metrics around decision making were changed. Decisions were to be made efficiently and escalated if necessary for approval and execution. The Director and PMO both were provided latitude to make decisions but kept CDOS leadership and the Steering Committee members adequately informed.

As part of the cultural shift we communicated to County Clerks that the PMO would make decisions effectively and efficiently but most requests for enhancements, improvements would be immediately rejected if they were not critical in nature. The PMO became ruthless in rejecting all scope and defect requests unless they were absolutely vital to mission of getting through the General Election. Several County Clerks stated they actually preferred “no” to ambiguity and were able to plan around functional gaps they knew would not be available.

In addition, the PMO took full accountability for the Program. There was absolutely no doubt about who was leading and what the fundamental expectations were for each team member.

This cultural transition started during the Mock Election and was refined through the General Election and provided the necessary team cohesion, executive accountability, and performance management. While the easiest element to implement from a PMO perspective, these actions eventually resulted in a successful deployment.

3.2. Full Deployment

Just prior to the Mock Election, all 64 counties were officially migrated to SCORE. While there were still necessary and outstanding data migration efforts (see Section 4), all counties were officially transitioned to SCORE by April 17th, 2008. This was a critical milestone for HAVA compliance as well as having all counties actively engaged in the Mock Election.

3.3. Understanding the Mock Election

The Mock Election was designed to meet the following objectives for the program:

- Identify system functional gaps
- Identify system connectivity gaps
- Identify system training gaps
- Identify necessary CDOS decision points and
- Instill county confidence in the voter registration and election management system.

The Mock Election was designed to simulate a comprehensive election cycle over a 10 day period. Each day was designed to focus on a different functional element of the system and CDOS would support the business functions. Key issues and gaps would be identified during this time and an action plan would be developed in response to the Mock.

The critical decision from the Mock Election would be whether the system would adequately support the Primary and General Election. **This was a fundamental validation point for the system.**

3.3.1. Planning the Mock Election

Planning for the Mock Election began with the appointment of Jan Kuhnen. Jan served as the Election Director for Larimer County and was recognized as an expert in the field of elections. Her experience with vote center, large county elections operations, and general elections business processes made her an ideal candidate for conducting the Mock. While the PMO managed daily operations, Jan was given command of the program during the Mock Election phase and was given priority of human capital during the planning in early April.

Jan initiated a county working group to start building the Mock Election Notebook. This notebook provided counties with the day-to-day processes for performing the Mock Election activities. It was designed to ensure that mission critical issues were properly identified for the Primary.

Counties were provided with the following guidelines for the Mock Election:

1. All counties were required to participate.

2. All counties were required to complete the mandatory business process functions.
3. All Mock Election activities were to be performed in the sandbox environment.
 - a. On April 9th, Saber created a copy of county data to be used in the sandbox environment.
 - b. The Sandbox environment is different from the production environment, and requires county users to log-in with a different ID from what they use in the production environment.
4. Counties should not perform any testing activities in the sandbox environment after April 12th.
5. Counties should not generate their poll book and/or signature cards until Wednesday, April 30th.
6. Counties should use the “Print Screen” button on your computer to capture any meaningful screen activity on SCORE.
7. Counties should dedicate as much time as needed for the Mock Election, but should try to use 10 am to noon each day as a time for logging into the system. We would like the peak activity across the state to be during this time period each day.

Prior to the start of the Mock Election, counties were surveyed for participation and the type of election they were setting up and testing (polling place or vote center). Specifically:

- One hundred percent (100%) participation resulted in 16 counties setting up a vote center election and 48 counties conducting a polling place election.
- Election management scenarios were set out as daily, however, no routine was expected, except for Day 1, when counties faxed in election set-up and on Day 8 when a simultaneous pollbook printing was planned.
- At several county requests, additional scenarios were added to provide further system testing (Election Day look-up) and direction to the counties to, if possible, access the system between 10 am and noon each day.
- Daily phone calls for immediate feedback were established. Based on voter registration size, counties were divided into small, medium and large and phone calls were established accordingly.
- Beginning and end of day team meetings were established to provide communication and task setting expectations.
- A daily newsletter was prepared to share inter-county issues. This communication tool was designed to provide quick, relevant information that could affect all counties. Mock Election Alerts were also used to deliver critical information to all counties as everyone proceeded through the Mock Election. System functionality issues created the need for most Mock Election Alerts.
- Scenario evaluation sheets were delivered with each scenario. The evaluation sheets were designed for quick, simple feedback. At the request of the networking team, connectivity ratings were also included in the evaluation. Counties were asked to turn in evaluation sheets daily, either by fax or by e-mail.
- Nightly scoring of all returned evaluations was recorded and CDOS customer support, where possible, returned phone calls the next day on evaluation questions, thus closing the feedback loop.
- The Saber Help Desk was directed to be the first point of contact for the counties. All issues were to be reported to the Help Desk and if resolution was not established in fifteen minutes, the counties were directed to call the CDOS Customer Support lines. Individual attention and issue resolution were delivered by all parties. The Saber Help

Desk added training resources to provide web-based training, using GoToMeeting for individual county trainings and assistance.

3.3.2. Mock Election Staffing

The Mock Election Command Center was established and manned daily by the following individuals:

- Trevor Timmons, SCORE II Project Director
- Jan Kuhnen, SCORE Mock Election Coordinator
- James Lundy, Networking Specialist
- Ken Slaughter, Saber Field Support Manager
- Trent Parker, Saber Functional Analyst
- William Browning, PMO
- Matt Benson, PMO
- Scott Lee, IV&V
- Vicky Stecklein, CDOS Tier 2
- Puneet Agrawal, Saber PM
- Terri Grenda, IV&V
- Christi Granato, IV&V
- Alyssa Prohaska, CDOS Tier 2
- Cameron Brauer, CDOS Tier 2
- Heather Williams, CDOS Tier 2
- Lisa Doran, Communications
- Leigh Anne McDonald, PM
- Holly Lowder, Elections Director
- Hilary Rudy, Policy

Team meetings with the entire staff were conducted in the morning and end of day. Holly Lowder, Elections Director, called in to meetings as she was providing first-hand feedback to the Mock Election team from the counties. County observations allowed the deployment of field resources as needed. Items were reviewed on a daily basis and the team was staffed accordingly.

The new CDOS Tier 2 support provided daily support for counties in business process issues while the Saber Help Desk managed Tier 1 calls from the counties. County acceptance and praise was high for both customer service desks, specifically for the team at CDOS. Questions, business process oriented and SCORE related, were answered quickly, plus feedback loops from evaluations were closed by this group. This was a very successful test run for the CDOS Tier 2 group and it was improved and refined for the Primary Election.

Saber Field Support was effectively deployed regionally during the Mock Election for the first time and responded in county to major issues and events. The Field Support team included:

1. Ken Slaughter – Manager
2. Sarah Garland (North Eastern – Based in Fort Collins)
3. Keith Morgan (South Western – Based in Grand Junction)
4. Steve Cohen (North Western – Based in Grand Junction)
5. Manoj Bulani (Central Mountain – Based in Denver)
6. Rex Brown (Eastern Metro – Based in Denver)
7. Kathy Overman (South Eastern– Based in Colorado Springs)

Field Support was started in early April and this was their first active assignment supporting CDOS with an election activity. CDOS representatives were located rotated around the state as directed.

3.3.3. Mock Scenarios and Schedule

The Mock Election scenarios were designed around a primary election. A primary election uses 100% of an election management system while necessitating the system function correctly when changing party affiliation for unaffiliated and political organization voters. The first statewide election to be held on SCORE II was the 2008 Primary Election, so system exposure for all counties ranked high.

Individual scenarios, simulating a primary election, were designed to be completed in the identified two-week period. The schedule for these scenarios is provided below:

Day	Date	Mock Election Activity
Monday	4/21/08	Ballot Cert and Election Set-up—State & County
Tuesday	4/22/08	Close of Registration and Ballot Inventory Set-up Small and medium county call-ins
Wednesday	4/23/08	Poll Worker set-up and run Absentee labels or export Large counties call-in
Thursday	4/24/08	Absentee starts. Run Signature Card export Small and medium county call-ins
Friday	4/25/08	Run Absentee scenarios Large county call-in
Monday	4/28/08	Early Voting starts Small and medium county call-ins
Tuesday	4/29/08	Early Voting ends—close of business Large county call-in
Wednesday	4/30/08	EVERYONE to simultaneously run Poll books/Signature Cards Vote Center set-up Small and medium county call-in
Thursday	5/1/08	Mock Election Day – everyone to access Voter Search for one hour Large county call-in
Friday	5/2/08	Import E-poll Book and close election Small and medium county call-in

The detailed schedule of the 46 scenarios conducted during the Mock is provided below:

Scenario	Component	Mock Date
Create an Election	Election Management	4/21/08
Ballot Certification	Election Management	4/21/08
Issue on a Primary Ballot	Election Management	4/21/08
Ballot Order	Election Management	4/21/08
Export ballot styles	Election Management	4/21/08 to 4/22/08
Ballot inventory set-up	Election Management	4/22/08
Assign election workers	Election Workers	4/23/08
Mail notification letters	Election Workers	4/23/08
Accept election workers	Election Workers	4/23/08
Decline election workers	Election Workers	4/23/08
Adding/Editing training class	Election Workers	4/23/08
Mail-in (absentee) processing Initial file	Absentee	4/23/08
Print training class rosters	Election Workers	4/23/08
Emergency registration with active ballot	Voter Registration	4/24/08
UOCAVA	Voter Registration/receive mail-in (absentee) ballots	4/24/08
Mail-in (Absentee)OTC	Voter Registration & ballot processing	4/24/08
Signature Card 2-Up and Signature Card 4-Up	Election Management	4/24/08
Receive mail-in (absentee) ballots	Receive Mail-in (Absentee) Ballots	4/25/08
Receive mail-in (absentee) ballots Rejects	Receive Mail-in (Absentee) Ballots	4/25/08
Undeliverable Mail-in (Absentee) Ballots	Receive Mail-in (Absentee) Ballots	4/25/08
ReplacementBallot processing	Receive Mail-in (Absentee) Ballots	4/25/08
Early Voting - Receive Absentee	Early Voting	4/28/08
Early Voting Address change Before Cutoff	Early Voting	4/28/08
Early VotingAffiliating an unaffiliated voter	Early Voting	4/28/08
Error in affiliation	Early Voting	4/28/08
Address change After Cutoff	Early Voting	4/28/08
Activity: Spoiling a ballot	Early Voting	4/28/08
Carry ballot	Early Voting	4/28/08
Transfer Credit	Early Voting	4/28/08
Balancing	Early Voting	4/28/08
Reallocate inventory	Early Voting	4/28/08
Create household labels for TABOR	Voter Search	4/28/08
Processing voters who are cancelled, inactive, etc.	Early Voting	4/29/08
Emergency registration	Early Voting	4/29/08
Early voting for a voter with an active mail-in ballot	Early Voting	4/29/08
Voter tries to vote twice	Early Voting	4/29/08
Early voting after early voting has ended	Early Voting	4/29/08
Pollbook	Election Management	4/30/08
Test your vote center connectivity	Election Management	4/30/08
Vote center reports	Election Management	5/1/08
Election Day	Election Day	5/1/08
Voting at Vote Center	Election Day	5/1/08
Vote Center Test	Vote Center	5/1/08
Mail-in (absentee) Late Ballots	Ballot Processing	5/1/08
Paying election workers	Election Workers	5/2/08
Post history and close election	Election Management	5/2/08

3.3.4. Control Counties

During the Mock, three control counties were established. These counties were continuing to run their legacy systems and when contacted, agreed to compare the Mock Election scenarios to the same scenarios in their legacy systems. These counties were:

1. Rio Blanco County, LEDES legacy, represented the small counties
2. Delta County, LEDES legacy, represented the medium sized counties
3. Adams County, VOTEC legacy, represented the large counties.

3.4. Policy Issues

During the Mock Election, it became clear many CDOS policy decisions were lagging behind the system implementation. PMIV, Voter Move, and other issues were identified. Most of these issues were only identified during this stage of the program as they required significant efforts to resolve and then adequately communicate to county officials.

3.4.1. Voter Move

As noted, this was identified in the planning stage of the Mock Election. Voter Move was identified as a potential show-stopper issue. This issue was revealed a few weeks prior to the Mock Election and involved how counties manage voter moves between counties. On the surface, this issue seems whimsical but under closer evaluation, this issue was clearly one of the most challenging problems faced by the program. The issue became a real problem when ballot inventory was included and resulting management of “in-flight” ballots. Rules and policy needed to be established to handle the following key limitations:

- SCORE only issues a ballot for a voter registered in a single county.
- SCORE does not allow for duplicate voter registrations.
- Duplicate voters cannot be voided - they must be cancelled, because of the re-synching of the poll book is the driver for how data is managed and records updated. A cancelled voter status removes the voter from the poll book, which allows the move to occur.
- SCORE does not allow a voter move for the following scenarios:
 - Active Request
 - Prepared and Sent Ballot
 - Ballot Received by Voter (This is working as it should).
- This impacted Early Voting, Active Absentee or Mail In Ballot (MIB) transactions.

The temporary work-around that was utilized during this phase was voter move between counties requires a call with peer counties to allow cancellation in one county and registration in the next.

3.4.2. Permanent Mail-In Voter (PMIV)

The new PMIV statutes were not clearly articulated into policy for SCORE. PMIV was identified as a new policy requirement that required decisions for further system implementation. PMIV was further complicated by Voter Move and UOCAVA. There was tremendous demand for PMIV status from citizens, placing more urgency on establishing policy and appropriate system supported processes.

3.4.3. Voter Identification

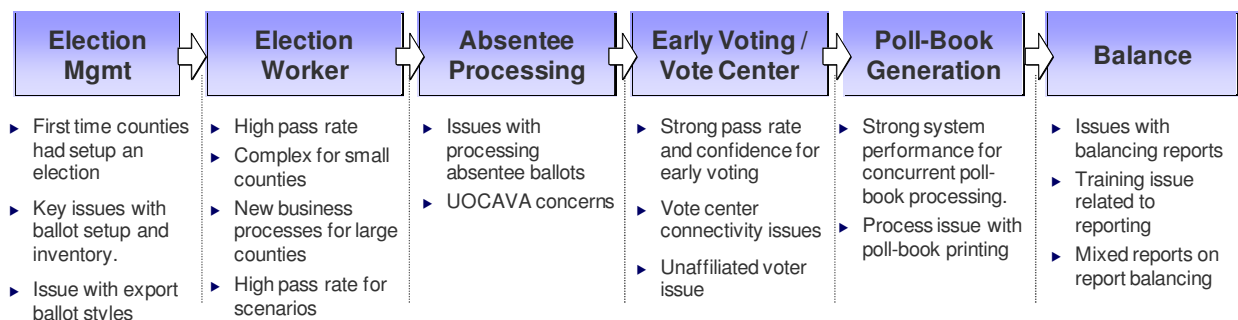
During this phase, voter identification requirements and scenarios were defined and communicated with counties. These scenarios included both in-person and mail-in registrations and clarified when ID was required for completion of the registration. Sample correspondence was also provided to the counties.

3.5. Results from the Mock Election

The critical result from the Mock Election was the validation of the SCORE system. In a Steering Committee meeting in May, 2008, Jan Kuhnen stated:

“I believe the system will work. We have issues but overall this system will work for the State of Colorado and I personally recommend moving forward with the implementation.”

In addition, the key findings from the Mock Election can be summarized in a high level in the following illustration.



Enterprise Findings

- ▶ Higher connectivity issues than expected.
- ▶ Good system performance and stability.
- ▶ Unaffiliated voters were not setup correctly – functional defect.
- ▶ CDOS tier 2 support improved over the duration of the mock.
- ▶ Saber help desk improved performance over time with active management.
- ▶ 1800 Spirit tickets were issued during this exercise with over 60% related to training.
- ▶ Strong training program is needed for counties to adopt to the system.
- ▶ Counties need more business process overview.
- ▶ Voter move issue was identified and resolved.
- ▶ There were key policy issues identified that needed more clarification.
- ▶ **The mock was successful as it:**
 - ▶ **Identified training needs**
 - ▶ **Identified functional gaps**
 - ▶ **Identified network / technology issues**
 - ▶ **Instilled confidence in the system**

The Mock Election provided a wealth of data for the performance of the system, but overall things were very positive as far as the functionality of the system. The biggest concern was how much additional support the counties required to adequately use SCORE. The Mock Election validated the North Highland assessment findings and ceased further discussion about the state of adoption across the state. There was now 100% agreement within the program that county training and support were ineffective and had to be completely overhauled for the Primary. The other key finding was how the SCORE Team performed during Mock. From a PMO perspective, the team performed at a very high level working an average of 14 hours/day for the duration of the Mock Election.

3.5.1. Instilling Confidence with the System

While the Mock achieved the goal of identifying issues which needed to be resolved for the Primary and General Elections, the Mock Election also provided greater confidence in SCORE from a county perspective. Specifically, counties felt the following were highly positive.

- Confidence in the system to handle simultaneous pollbook generation and concurrent business transactional loads.
- Server capabilities were measured and passed with high marks.
- Counties coming off some legacy systems found the SCORE II application to be much easier to use than their legacy systems.
- Other users found the logic in SCORE II to be easier than their legacy system.
- Some counties found functional items in SCORE II that makes their election processes easier.
- Given the extent of the connectivity and application errors, county confidence in business processes could not be measured.

3.5.2. Detailed Findings – Fundamental Issues Identified from the Mock

This section describes the fundamental issues identified during the Mock Election.

3.5.2.1. Training Issues

Approximately 60% of the 1023 issues reported to the Saber Help Desk during the 10 day period were categorized as training-related. This identified the following fundamental training gaps across the counties which represent most of the system functionality:

- Election Setup and Creation
- Ballot Inventory Management
- Absentee Processing
- Early Voting
- Vote Center Setup
- Poll Worker
- Reporting
- Balancing

3.5.2.2. Functional Issues

Additional functional enhancements and defects were reported and these included:

- PMIV Status
- Inadequate reporting capabilities, including tracking of voided ballots
- Unaffiliated voters not affiliating for primary/printing on Poll books/Voter History
- Vote Center judge's assignment/acceptance
- District style generation for import to tabulation systems failing or not available
- Health Care Facility designation
- Close of Registration Date and Eligibility Hunt
- Early Voting and Vote Center label printing delay
- Printing of Poll books (Batch Processing)
- Foreign address printing on Avery 5160
- Election worker movement between county and tracking
- Ballot transfer did not reprint label

- Payroll export
- Election processing speeds
- Permanent mail-in designation

3.5.3. Detailed Findings – Technology

More network issues were reported than initially suspected. There were numerous issues with network performance that slowed down systems and created other issues. Technology issues included:

- Approximately 30 to 40% of counties reported connectivity issues of some type. These issues included:
 - SSL errors
 - Slow and jerky mouse
 - Log-in difficulties
 - Frozen screens
 - Vote Center – blank screens
 - Vote Center multiple sessions open
- Counties reported not having access to Excel or other technologies to manage core data from SCORE.
- Counties reported unfamiliarity with mail merge, creating PDFs, exporting and data manipulation.
- There were numerous issues with peripheral devices, primarily with the Dymo label printers.

3.5.4. Detailed Findings – CDOS Customer Support

As critical as the issues identified in functional and technical support, the PMO focused on how to improve customer support operations. We discovered:

1. Team meetings twice a day were very informative.
2. A standardized call list (paper or electronic depending on the process) was helpful.
3. In-depth training on SCORE II modules were needed for CDOS, Saber Field Support.
4. CDOS needed to develop and provide documentation and training aids
5. CDOS staff needed to develop an overview of reports
6. The PMO needed to help share “hot issues” across the team.
7. The PMO needed to provide an updated list of county contacts, specifically names and cell phone numbers of critical election staff – not just root numbers for the county offices.
8. There needed to be improvements on how CDOS Tier 2 managed customer support mechanics.
9. Staff and Field Support visits to counties helped integrate election law and the reality of elections.
10. The escalation of questions to CDOS Tier 2 worked well.
11. The Availability of Saber FA and FSG expertise was good during the mock.
12. The Mock election was a great training tool for those team members unfamiliar with elections.

3.6. Other Critical Activities Outside of the Mock Election

3.6.1. Disbanding the Score Task Force

Before April 2008, the SCORE Task Force was used to manage requirements gathering and help prioritize program objectives. This group was managed by the Election Director, Holly Lowder, and consisted of key CDOS staff. While this group was largely effective with release definition in the past, it was decided the PMO would have a more effective approach in prioritization and approval of future releases, starting with Release 4.1 which was defined from findings from the Mock Election.

3.6.2. Release 4.0

An additional functional release was defined before the Mock Election summary report. During this Phase, Release 4.0 was defined and development was initiated with an intended release into Production on May 27th, 2008. This release included the following scope elements:

- **Provisional Ballots**
 - a. Ability for the system to track voters who voted provisional at the polls with the unique pin numbers, and provide appropriate provisional voting credit for voters whose provisional ballot was accepted. The function will also have one provisional voters list report and export; provisional summary statistics report at county level and provisional statistics report at state level.
- **Permanent Absentees**
 - a. Provide users the ability to edit a Permanent Absentee request. This will include:
 1. Not to default end date for permanent absentee
 2. Ability for users to edit end date and absentee mail address of the request
- **Administrative void**
- **Over 60 functional corrections**

During this phase, UAT was initiated for this release as scheduled.

3.6.3. Release 4.1

As part of the Mock Election findings, Release 4.1 was considered a final release for the SCORE statewide deployment. This release was scheduled for release in July 7th and addressed the fundamental gaps below:

- **Voter Move Functionality**
- **Vote Center Performance**
- **Unaffiliated Voter Issue**

Additional detail on Release 4.1 is provided in Section 4.

3.6.4. SCORE System Performance

The following tables summarize user session counts and key system performance metrics for the SCORE system during the Mock Election.

Site 1							
Session Data			Citrix Meta Frames Servers (1-10)			Database Servers (1-4)	
Date	Sandbox Users Sessions	Maximum Simultaneous Users	Maximum Processor Utilization %	Minimum Memory Available	Maximum Threads	Maximum Processor Utilization %	Minimum Memory Available
4/21/2008	124	135	7.89	1,357MB	3,026	9.50	15,574MB
4/22/2008	163	160	10.52	1,071MB	2,706	14.00	10,352MB
4/23/2008	172	96	13.20	1,756MB	2,219	6.67	11,186MB
4/24/2008	165	129	11.65	1,604MB	2,511	7.00	10,351MB
4/25/2008	174	118	10.17	776MB	2,435	4.50	12,587MB
4/28/2008	215	140	10.03	604MB	2,644	4.00	12,453MB
4/29/2008	203	160	13.14	925MB	2,630	7.83	9,673MB
4/30/2008	173	165	17.01	404MB	2,887	10.00	10,258MB
5/1/2008	249	166	15.79	737MB	2,745	3.00	9,681MB
5/2/2008	124	118	19.47	1,269MB	2,355	3.50	9,645MB
Site 2							
Session Data			Citrix Meta Frames Servers (1-10)			Database Servers (1-4)	
Date	Sandbox Users Sessions	Maximum Simultaneous Users	Maximum Processor Utilization %	Minimum Memory Available	Maximum Threads	Maximum Processor Utilization %	Minimum Memory Available
4/21/2008	88	107	9.55	1,367MB	2,354	21.83	13,862MB
4/22/2008	109	105	9.25	1,801MB	2,450	21.33	11,401MB
4/23/2008	131	146	10.73	930MB	2,746	13.50	9,403MB
4/24/2008	94	145	12.27	439MB	2,629	19.50	11,056MB
4/25/2008	99	106	8.07	629MB	2,308	17.33	11,625MB
4/28/2008	141	131	9.41	1,155MB	2,540	8.00	11,236MB
4/29/2008	140	145	18.88	1,695MB	2,575	12.83	11,429MB
4/30/2008	99	86	8.20	131MB	2,136	16.00	86MB
5/1/2008	138	150	11.42	1,188MB	2,720	25.33	54MB
5/2/2008	108	86	21.60	1,627MB	2,252	23.67	10,011MB

3.6.5. County Data Migration

During this time, additional data migration efforts were undertaken to complete remaining data migration from legacy systems for the following counties:

- Adams
- Arapahoe
- Denver
- Douglas
- El Paso
- Garfield
- Grand
- Jefferson
- Routt

This migration was necessary to move the existing address library for Jefferson County. The other counties either required address library flags migrated or required migration of multi-page TIFF images. Some counties required migration of images that were not originally migrated in

the first phase. Saber agreed to provide migration services as an additional contract and initiated these migrations in early May 2008 and completed them by July 21st 2008.

It is important to understand these supplemental migrations had significant impact in Primary operations.

3.6.6. Production Site Facility Setup

CDOS arranged a secondary facility (location undisclosed in this report) for Site 2 to allow for a disaster contingency option for the production environment. CDOS arranged the lease, power and other necessary facility arrangements; this was well behind schedule for many reasons. The efforts during this phase were to push the teams to get this completed for the Primary Election.

3.6.7. Large County Meeting

The SCORE PMO facilitated a meeting with all large counties to summarize the action plan for the Primary Election. During this meeting the counties expressed their concern and frustration with the program and questioned how the SCORE team would “possibly accomplish” all of the remaining actions required to conduct a successful Primary and General Election. The concerns highlighted during this meeting included:

1. Frustration and concern about the ability for Saber and CDOS to provide the necessary training to help counties understand the system.
2. Overall frustration and concern about the existing system functionality.
3. Reporting was insufficient and wouldn't meet larger county requirements or demands.
4. Releases were still being deployed and were planned for July – a mere month from the Primary election.
5. Some counties voiced support for using their legacy systems instead of moving forward with SCORE. These counties included Douglas, Jefferson, and Weld.

This was a productive meeting but counties were justified in their frustration and anger with CDOS. Up to this point, the program had focused on a delivering a successful Mock Election but had not initiated the aggressive “county first” support services model which included better training, communication, an improved CDOS Tier 2 support team, and coordinated on-site Saber Field support.

The SCORE PMO requested counties to give program a few weeks for the necessary adjustments which were completed in May. Starting in June, the program began an intensive mission focused on county success and the Primary Election phase in Section 4.0 demonstrates the positive results.

3.7. Actions Taken during this Phase

This section outlines the key actions identified during this phase. While not comprehensive, this section highlights the key changes and focus points for the team. Illustrated below, the action plan was shared during the May Steering Committee meeting.

Planning 5/1 – 5/16	Phase 1 5/17 – May 31	Phase 2 June 08	Phase 3 July 08
<p>Election Activities:</p> <ul style="list-style-type: none"> • Voter Registration • Reporting • Data Migration • Election Worker 	<p>Election Activities:</p> <ul style="list-style-type: none"> • Voter Registration • Reporting • Election Worker • Election Setup • Voter Movement 	<p>Election Activities:</p> <ul style="list-style-type: none"> • Voter Registration • Reporting • Election Setup • Ballots • Absentee 	<p>Election Activities:</p> <ul style="list-style-type: none"> • Voter Registration • Reporting • Absentee • Early Voting Setup • Vote Center Setup
<p>Training Activities:</p> <ul style="list-style-type: none"> • Finalize Training Plan • Scope training resources • Build Reporting Index • Finalize Regional Agenda • Define Critical Reports • Define SOP • FAQ on Release 4.0 • Initiate Election Readiness 	<p>Training Activities:</p> <ul style="list-style-type: none"> • Voter Move “How To” • Finish Regional Content • Hire Training Resources • Dedicated Field Support • Webinar Development • Begin FAQs • CDOS internal training • 4.0 Webinars 	<p>Training Activities:</p> <ul style="list-style-type: none"> • Conduct GS Training • Conduct Webinars (2 / week) • Produce 1 self-service video / web-based training (per week) • Continue FAQs • CDOS internal training 	<p>Training Activities:</p> <ul style="list-style-type: none"> • Conduct Large County Sessions • Conduct Webinars (2 / week) • Produce 1 self-service video / web-based training (per week) • Continue FAQs • CDOS internal training
<p>Training Content:</p> <ul style="list-style-type: none"> • Reporting definitions • Scope 4.0 overview 	<p>Training Content:</p> <ul style="list-style-type: none"> • Voter Move Policy FAQ • General FAQ • Voter ID Policy Summary • Election Worker 101 • Release 4.0 Webinar • Initiate MS Office 101 	<p>Training Content:</p> <ul style="list-style-type: none"> • Voter Move Training • Election Worker • Ballot Management • Election Setup • Reporting Webinar • Absentee • Policy updates • Release 4.1 	<p>Training Content:</p> <ul style="list-style-type: none"> • Release 4.1 / Corrective builds • Early Voting • Vote Center • Policy Updates

3.7.1. Organizational Actions

Continued refinement of the organization was critical during this phase. The following staffing assignment changes were made during this time.

1. Holly Lowder was transitioned to a county liaison role during the Mock to help manage issues within the counties and provide senior leadership within the counties.
2. Leigh-Anne McDonald the former project manager was transitioned in early May, concluding her service to CDOS.
3. Jan Kuhnen departed after the Mock Election, having served her contractual obligations. The PMO lobbied for her return in on June 22nd to support the Primary and General Elections.
4. The SCORE Task Force was disbanded and replaced by the PMO.
5. Matt Benson (North Highland) was directed to manage the customized extraction process which was initiated late in this phase to address critical gaps with system and functional reporting.
6. The Dynamic Resources Corporation (DRC) was hired to provide network and technology support. Focused primarily on root cause analysis, the team consisted of

Chris Schock and Arjun Anand and they initiated the discovery process during this phase.

7. Alyssa Prohaska was transferred from Campaign Finance to provide CDOS Tier 2 Support.
8. Lisa Brinkman (North Highland) was hired at the end of this phase to provide support for developing training materials.
9. The following members were added to the SCORE II Steering Committee:
 - a. Mesa County - Janice Rich
 - b. Logan County - Pamela Schneider
 - c. Washington County - Garland Wahl
 - d. Bent County - Patti Nickell

3.7.2. Programmatic Actions and Results

The table below outlines critical actions taken and subsequent results through May 15th.

Program Action	Program Results / Consequence
Conduct the Mock Election	<ul style="list-style-type: none"> ▪ Successfully completed. This identified the action plan for the Primary Election and provided the necessary validation to continue deployment of the SCORE System. ▪ Consequence: Several technical and network issues were identified and are addressed in this table below:
Develop County Training Program	<ul style="list-style-type: none"> ▪ The first draft of the training program was developed during this time but not implemented. ▪ The team identified a massive training effort was required on core SCORE election management functions as well as additional supporting mechanisms. ▪ Initial investigation into CDOS produced webinars was completed. ▪ Consequence: The SCORE PMO was too slow in adopting webinar technology after the Mock Election. This was corrected in the next phase.
Develop CDOS Tier 2 Program	<ul style="list-style-type: none"> ▪ The team was hired and the CDOS Tier 2 group was established and tested during the Mock Election. This test was successful by all counts. ▪ Consequence: Vicky Stecklein should have been appointed to manage the CDOS Tier 2 group upon creation of the group to help streamline the reporting structure as well as role definition.
Customized Extraction and Reporting	<ul style="list-style-type: none"> ▪ A customized extraction process was conceived during this time to expedite providing data to counties in lieu of the system providing reports. This process was initiated during this phase and was refined over the next three months. ▪ Consequence: There were enormous ramifications due to SCORE's inability to meet basic county reporting needs and standards. The customized extraction process was a necessary reaction to meeting CDOS and county business needs but it consumed an enormous investment of time. As with other elements of the system, business requirements could have been more robust to provide better reporting. A future state recommendation for a business intelligence architecture or solution is HIGHLY required for this system.

Program Action	Program Results / Consequence
System Releases – Enhancements and Defect Corrections	<ul style="list-style-type: none"> ▪ Release 4.0 development was completed at this time. ▪ Scope for Release 4.01 was completed and development on this release was started. ▪ UAT was completed for Release 4.0 ▪ Consequence: Release 4.1 was not planned and implementing this release so close to the Primary posed a significant risk as well as reducing county confidence in the Election.
Field Support for Counties	<ul style="list-style-type: none"> ▪ Field Support was fully dispatched across the regions during this timeline. ▪ Field Support began introducing themselves to their assigned regions. ▪ Consequence: The structure of the Field Support contract could have been more favorable to CDOS. The management of the Field Support team was an issue during this phase and was addressed in June.
Voter Move	<ul style="list-style-type: none"> ▪ The initial scope defining how voter move was to be accommodated by SCORE was completed in May and scoped for Release 4.1. ▪ Consequence: It was a major failure that this issue was not identified and mitigated much earlier in the requirements gathering process.
Technology Issue Mitigation	<ul style="list-style-type: none"> ▪ The greatest risk to the program at this point was network and a host of technical issues. ▪ DRC was contracted to begin immediate network and technology component root cause analysis. ▪ Consequence: The SCORE PMO should have been more aggressive in giving DRC more access into the productions operations.
Performance Testing	<ul style="list-style-type: none"> ▪ While the IV&V vendor did a great job performing UAT, performance testing was a gap that the PMO did not actively manage. During this stage performance testing was being setup for the July 4th weekend. ▪ During this phase, Saber completed their internal security and performance testing and those results were positive. ▪ Consequence: While components of performance testing were completed in later stages, more active management by the PMO would have mitigated some of the issues later in the summer.
Data Migration	<ul style="list-style-type: none"> ▪ Supplemental data migration was initiated for remaining counties that had data missing from the original migration. ▪ Consequence: This effort should have been completed earlier in the program. Due to the fact these were large counties, they took county resources away from learning SCORE. Adams and Douglas Counties were significantly impacted by this effort.
Site II Setup	<ul style="list-style-type: none"> ▪ Progress was made on securing facility space for the secondary site for production operations. ▪ Consequence: This was unnecessarily behind schedule and this put the program at risk close to the Primary Election.

Program Action	Program Results / Consequence
County Communication	<ul style="list-style-type: none"> ▪ Weekly calls were established with counties based upon the demographic size of the county. ▪ Consequence: The SCORE PMO had to become disciplined in message delivery on nearly a daily basis.
Contingency Scenarios	<ul style="list-style-type: none"> ▪ The need for business contingency plans were late during this phase but were needed for the Primary Election. ▪ Consequence: These should have been completed as part of the business process requirements.

3.7.3. Risks and Issues (As of May 15th)

Similar to the Assessment Phase, there were still major implementation and political risks.

1. There were still large counties who were actively resisting the system implementation; many of them still desired to use their legacy systems for the Primary and General Elections. This posed an enormous risk to the integrity of the statewide system and had to be immediately resolved in late May.
2. The release schedule was close to the Primary Election date.
3. The counties were about to initiate the Primary Elections functions in June and were not prepared, trained, or ready for these activities.
4. The SCORE Team was still relatively new and inexperienced with the system.
5. The SCORE Team morale was improved by the completion of the Mock Election but the team was exhausted and the work effort for May and June was going to be brutal for the entire team.
6. Supplemental migration was launched for key large counties and consumed key county resources.
7. Voter move was still conceptual and untested and would remain so until Release 4.1 was in Production (less than a month before the Primary).
8. Counties had other responsibilities outside of SCORE, including voting system certification, motor vehicle, etc. These responsibilities were competing with the team’s training efforts.
9. Reporting was a major concern for all counties and began to consume internal CDOS cycles. There was concern reporting would not ever be adequate.
10. Despite a successful Mock Election, media and voter advocacy groups remained hostile to the program.
11. County publicity for the PMIV status and the citizen response was grossly underestimated and resulted in a CDOS reacting to developing policy in a reactive nature.

3.8. Phase Conclusions

Conclusion of the Mock Election phase left the SCORE PMO feeling better about the future and more determined to successfully deploy SCORE across the state. At the conclusion of this phase, the focus was on managing the immediate high priority demands from the counties.

In mid-May, there wasn’t a single person on the team who could have predicted how painful the months of June and July were going to be for the team. While we realized the counties required

additional training and other support, the fundamental issue that was under-estimated at the conclusion of the Mock Election was ballot inventory and the impact of PMIV.

Starting in May, many large counties began public campaigns to push voters to receive permanent mail-in ballots (PMIV). Due to media reports and memories from the 2006 election, citizens responded in high numbers to be eligible for this new designation. During the next phase, the complexities with managing Voter Move combined with an influx of an entire new voter classification, much of the effort in May and June was not preparing for the Primary but assisting counties identify and resolve ballot inventory issues.

The next section outlines how the team managed this new and difficult business process while concurrently preparing and executing a successful Primary Election.

4. The 2008 Primary Election (May 16th to August 26th)

Starting mid-May the efforts for the program shifted to managing the August 12th Primary Election. This phase describes planning efforts for the Primary through the Election and then summarizes the 2008 Primary County Summit. This event was conducted on August 26th to solicit additional feedback and recommendations for improving operations for the General Election.

4.1. Understanding the 2008 Primary

For many counties, the 2008 Primary was a virtual non-event due to a high number of uncontested races and low voter turn-out. However, there were counties with highly contested races. Overall, every county had to participate in the Primary Election using the SCORE system. Ballot certification was completed on June 13th but critical election activities and ballot management processes had started well before this date. It is important to note that SCORE is not used for ballot certification processes.

Other critical dates included:

- July 11 Ballots for primary election must be printed and in possession of the designated election official.
- July 14 Last day to register to vote for the primary election.
- August 2 Early Voting Starts
- August 5 Last day to apply for a mail-in ballot for the primary election if the ballot is to be mailed.
- August 8 Early Voting Finishes
- August 8-11 Counties Generate Poll Books, Setup Vote Center Connections
- **August 12 Primary Election**

During the Primary, the SCORE system supported the following business functions.

1. Election Setup
2. Ballot Inventory Setup and Management
3. Absentee Ballot Processing
4. Voter Registration
5. Voter Move / Duplicate Clean-Up
6. Early Voting
7. Vote Center (9 counties)
8. Poll Worker
9. Provisional Ballots
10. Reporting

The key challenges during this phase involved the volume of PMIV requests, ballot inventory and management issues, education of county contracted (temporary) resources on using the system, issues with the poll worker module, and continued gaps in business reporting. ***This was the most challenging phase for the SCORE system implementation – largely due to the volume of requests from counties who were trying to learn the new system while conducting an election.***

4.2. Cultural Focus and Alignment Summit

One of the most critical events during this phase occurred on July 14th and included all SCORE Team Members. This was an all hands session designed to reset expectations, celebrate success to date, and then place resolve around the action plan for the 30 days remaining to Primary.

We placed special emphasis on this meeting as key agreements were reached with the team about how we would operate the Program during the critical election cycle. Key to this was a stance on disposition within the Program. The following graphic places such emphasis by the SCORE PMO to reduce unnecessary panic and drama.

Example (s)	Response	Owner	
Production environment has been disabled. No business functions. "Complete system outage"	Structured and calm reaction to the issue. County-wide communication Accountable with resolve.	PMO	Critical
Major disruption of service for multiple counties "Counties are down"	Reactive and calm reaction for the impacted counties County-specific communication.	PMO	High
Disruption of service within a single county. Data integrity issues. "County A is down"	Reactive and calm response. Focused response on the county that is impacted.	CDOS Tier 2	Moderate
Important issue but not one that limits business functions "This could work better if"	Response through channels – CDOS Tier 2, FSG, PMO.	CDOS Tier 2, Saber Help Desk	Low
Issue that doesn't require action or has an action planned. "I need training!"	Response through channels – CDOS Tier 2, FSG, PMO.	CDOS Tier 2, Saber Help Desk	Non-Issue

The PMO will advise when you should panic...

In addition to helping define issue prioritization and the appropriate response, the session highlighted team building. For the first time, the entire SCORE team was assembled for the day and the time was productively used to get a better understanding of team capabilities and expertise. Finally, the meeting also accomplished:

1. Recognition for team and individual accomplishments.
2. Understanding of key elements within the Program, including
 - a. Election Calendar and County Operations
 - b. Customized Extraction
 - c. Release Functionality
 - d. Program Planning for Training
 - e. Field Support Operations
3. A better understanding of roles and responsibilities within the team.

In an effort for transparency, the output from this one day retreat was provided to Steering Committee on July 21st.

What could we be doing better	How could we improve it	Our Actions
<ul style="list-style-type: none"> • Communication: • More consistent, coordinated messaging from project team to counties and internal. • Better identification of inconsistent messaging coming back from the counties. • More team Integration; as we transition to a more integrated approach, the team will need help. • Improve the speed of communication 	<ul style="list-style-type: none"> • Develop “response approach” for messaging FSG while disconnected • Distribution of emails appropriately to all parties. • Post all relevant materials to the Clerk’s Corner. • Help mitigate issue with counties “not allowing” FSG resources to plug into local networks for access. • Proactive identification of users that need Clerk’s Corner access and making it happen. • Develop training or Webinar for navigation of materials posted on the corner. • Institute all hands (in person meetings) • More face-to-face between CDOS T2 and FSG. • Our team needs to be on the same page/consistent message 	<ul style="list-style-type: none"> • Daily Operational Scorecard • Update Clerk’s Corner • Daily Management Call with CDOS T2, FSG, Saber Dev, Saber Help Desk • Daily operational call with FSG • Monthly All Hands • Distribution of updated contact information. • Internal training programs.
<ul style="list-style-type: none"> • Integration: • Eliminate Contractual Boundaries • Identify Project Subject Matter Experts (SME) • Use your team. • Share your knowledge • Ask for help • Team members need flexibility to meet “real” needs 	<ul style="list-style-type: none"> • Identify boundaries if they exist (confirm/deny perception issues) • Document and communicate (via contact lists) SMEs or level of expertise • Communicate (from PMO) about the realignment of the team and no more walls 	<ul style="list-style-type: none"> • Reset FSG contractual scope of work • Daily Operational Scorecard • Update Roles and responsibilities and clearly share with team. • Extend CDOS training to FSG • FSG participation and support of weekly webinars.
<ul style="list-style-type: none"> • Scheduling: • Better Election Calendar Awareness and Context • Understanding what counties need and why 	<ul style="list-style-type: none"> • Institute an agenda topic on small, med and large county call to discuss “where” counties are in the process • Communicate these findings once per week on the FSG / CDOS operations call 	<ul style="list-style-type: none"> • Alignment of training and responsiveness to election calendar. • Production and distribution of an election calendar for both elections. • Coordinated efforts with counties to understand issues and resolve them by using full team.
<ul style="list-style-type: none"> • Workflow Management: • Improve Issue and Scope workflow management issues • “Owning” the issue 	<ul style="list-style-type: none"> • Refine and re-communicate purpose of CCB • Refine and re-communicate of Steering Committee • Develop process for complete issue workflow mgmt • Institute new tools • More face-to-face with CDOS T2 and FSG to share thoughts, learn, understand each other. • Be accountable for your issues/Timely response or follow-up 	<ul style="list-style-type: none"> • Extension of Spirit for CDOS T2 and PMO to track issues better. • PMO Daily Operational Scorecard to set priority. • Daily operational calls with FSG, Help Desk, and CDOS T2. • Reset CCB expectations. • Finalize scope for General Election. • Monthly All Hands

4.3. Internal Election Calendar Alignment

The majority of the SCORE team didn’t understand the business process dependencies within the county or how the election was actually performed at the local level. Jan Kuhn produced the Primary Election Calendar that aligned critical business functions within a weekly schedule.

While this seems simple, this revolutionized Field Support and CDOS Tier 2 Support as they could use the calendar to proactively support counties on future activities and also not waste a county’s valuable time in supporting business functionality that wasn’t a priority. It also provided insight into non-score variables and efforts – meaning the Field Support could better schedule when they should be on-site.

The following is a sample from the four page Elections Calendar used by the team in July and August.

SCORE Program Assessment

Activity	July 14th	July 21st	July 28th	Aug 4th	Aug 11th	ED 8/12	Aug 18th	Aug 25th	Sept 1st
MAIL-IN BALLOTS									
Receive and Scan Starts(County Determined)	x	x	x	x	x	x			
Over the Counter Ballots Issued	x	x	x	x	x				
Replacement Ballots Start		x	x	x	x				
Mail-In Ballot Issuance - out 72 hours from receipt of request									
Import Ballot Numbers from Vendors	x								
Web Look-Up	x	x	x	x	x	x			
No Signature Letters Out	x	x	x	x	14-Aug	x			
LD Walk-In Mail-In Ballot				Aug 8th					
PHONE BANK SET-UP									
				x	x				
POLLBOOKS (Run and print)									
				x					
PROVISIONALS									
Enter provisionals and check					x		x-Aug 25		
SIGNATURE CARD EXPORT TO VENDORS									
County Determined	x								
SYSTEM OUTAGE									
		20-Jul							
TABULATION									
VC Programmer Interface	x	x	x Aug 2						
Create general election							x	x	
TRAINING - County Determined									
Early Voting Judges/Polling Location Judges	x	x	x	x					
Mail-In Receive Judges (large counties)	x	x	x	x					
Road Runners - Vote Centers/Super Precincts				x	x				
Phone Bank Personnel				x	x	x			

4.4. Third Party Solutions

There were third party solutions that were approved to be used with the SCORE system for the Primary Election. These modules used data from SCORE and exported necessary transactional data (voter history) back to SCORE.

1. Independent Vote Center Client (used in 2 large counties)
2. LEDS Vote Center Client (9 counties)
3. LEDS e-Poll Book Solution (used in 3 counties)

The continued use of these 3rd party solutions for future elections is largely discouraged due to the additional efforts required to support the data integration efforts (see section 6.0).

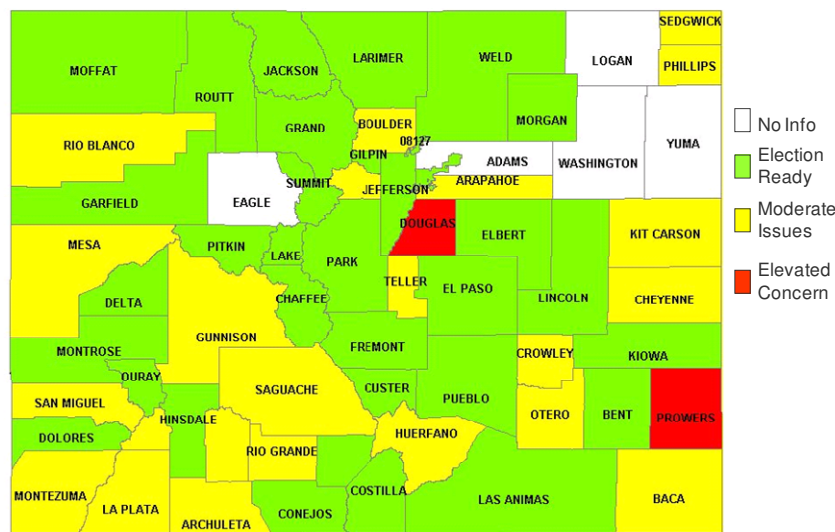
4.5. Closure on Legacy System Integration

In late May, a meeting was held in Douglas County with Jefferson, Weld, and Douglas Counties to discuss why these counties could not continue to use their legacy (Votetec) systems with the SCORE system. These counties were late in deployment of the system and the SCORE PMO was open to working with these counties to hear their concerns about the system. There was sympathy to the situation and the CDOS SCORE team spent approximately 40 hours evaluating whether the SCORE system could possibly integrate with the three county systems. However, careful analysis demonstrated that due to the population of these counties combined with the way ballot inventory functions, the management of active ballot requests would have been absolutely impossible to manage. Our assessment concluded an integration strategy would have compromised the other 61 counties and generally HAVA compliance.

This meeting was conducted with key Elections staff from the three counties and to the credit of the county staff; they were patient with us as we explained our position, the system functionality, and the complications. In the end, it was agreed the counties would disband their legacy systems and discontinue efforts to integrate with SCORE. In return, the SCORE PMO promised more training and direct support for these three counties to help them resolve remaining issues. This was a great example of a county partnership model where difficult issues between the state and county governments were resolved in an effective and diplomatic manner.

4.6. Election Readiness Survey

In early June, the Saber Field Support produced an election readiness survey. This survey was supposed to forecast the adoption capabilities for the counties. We only executed mechanism once as it really didn't provide useful information and the forecast provided wasn't accurate. The survey results from June:



For the record, there were more counties in June with elevated concerns. If this mechanism had been leveraged, it would have focused team resources on the wrong counties.

4.7. Daily Operational Score Card (DOS)

While the Election Readiness Survey failed to be as useful as advertised, the SCORE PMO developed another mechanism to help manage daily issues and other critical activity. The DOS was emailed at the end of each day to the entire team (including CDOS leadership) and provided vital information for the team for the next day. The SCORE PMO religiously published this as way to track critical issues, communicate schedules, and share where our people were in the state. A sample is provided below:

Daily Operational Score Card		
<p>Critical Issues (County)</p> <ul style="list-style-type: none"> Mesa – Duplicate ballot 7797 (Still under review) Spirit 7943 – Kit Carson - User is not able to print on a networked printer from SCORE. Spirit 7246 – Jefferson – Memory issue on BP-001 D (Parker) Global – 7881 – Voided ballots / voter move issue. Need further analysis Dymo when connected to SCORE– prints duplicate label (Parker) Extra label printing as reported by Jim and Kathy; Dymo printing out of SCORE 	<p>Resolved Issues</p> <ul style="list-style-type: none"> Logan – Network issue (Garland/ Schock) Crowley – Dymo Printer issue (Shipped) Spirit 7939 – El Paso – SSL Error (Schock) Spirit 7909 – E038 Certification Report issue 	<p>County Election Activity</p> <ul style="list-style-type: none"> EARLY VOTE START (8/2 - 8/8) Pollbook Generation (8/8) Voter Registration/Web-Lookup Local Felon Checks Phone Bank Setup Last Day for Mail in (8/8) Replacement Ballots Start Receive and Scan Starts VC Programmer Setup & Test Over the Counter Ballot Issuance No Signature Letters Delivered Poll Worker Training Vote Center: Pack and Deliver Supplies, Prepare for Election Check-In Vote Center Testing (3rd Party)
<p>Policy / Communicate</p> <p>COMMUNICATED YESTERDAY</p> <ul style="list-style-type: none"> E038 Communication / Early Voting Provisional Medium Conference Call Team program plan for review (Internal) <p>HAPPENING TODAY</p> <ul style="list-style-type: none"> Release planning meeting Heather Williams Lunch Policy Update Provisional Ballots - Processing 	<p>Critical Activities Today</p> <ul style="list-style-type: none"> Early Voting – All Counties LEDS Reporting Solution Feasibility – Decision Week of 8/4 SSL Script Deployment Continued Spirit Analysis and Scope Definition Saber Spirit analysis Continue Eval of Saber Development Fixes (due 8.4.08) – “100 defects” Release Planning Discussion Webinar Preparation Finalization of program plan OIT Status Report Finalized 	<p>People</p> <ul style="list-style-type: none"> Keith Morgan in Dolores Jessica Williams in Conejos Sarah Garland in Adams Kathy Overman in Otero Steve Cohen in Mesa Cameron Brauer in Pueblo Rex Brown in Saguache/ Alamosa Kim Smith in Pueblo Saber Help Desk 24 x 7
Primary – 6 Days	August 7 th 2008	General – 90 Days

4.8. GoToMeeting / Webinar Training Development

Developing training that is useful for 64 counties that provides specific functional insight into a module of the SCORE system was a very difficult proposition. Counties simply didn’t have time for regional training or attending a classroom session. Counties were buried with PMIV requests, other election functions and simply couldn’t give Saber Field Support sufficient time. A mechanism was necessary for counties to learn the appropriate system functionality when they had time to complete it. CDOS and Saber were using GoToMeeting (GTM) for basic webinar training but this was done real time. Using the same technology, the team discovered Power Point (PPT) presentations could be built with an audio voice over and then archived for the counties to play at their own convenience.

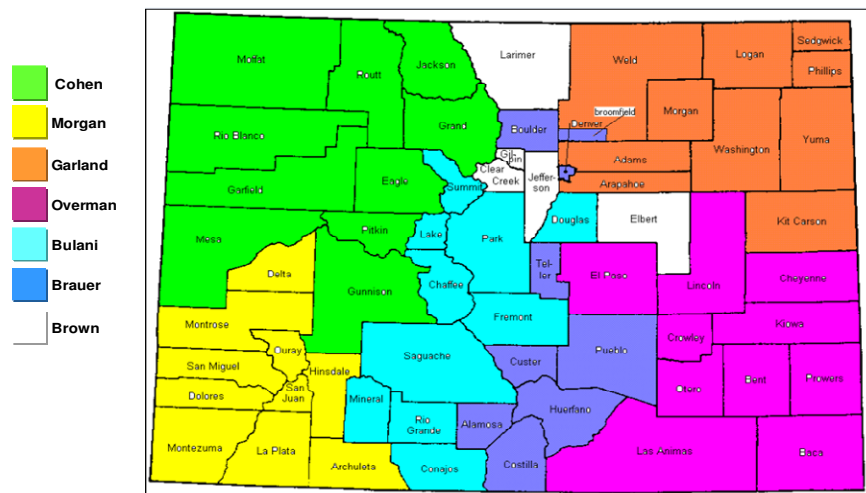
This simply revolutionized training delivery. Instead of scheduling a classroom session with counties, the CDOS Tier 2 team resource (Alyssa Prohaska) simply developed a detailed PPT on a specific module, provided a voice over, and then uploaded the training to the GTM site. The counties were informed by email and county conference calls about the training which they could access at their convenience. The GTM site also provided metrics on which modules had been completed by which county. The webinars became a vital element in delivering a robust and flexible training solution for the counties. A library of system functionality could be available at the fingertips for the counties.

In addition to the PPT GTM capability for structured training, GTM licenses were also provided to Field Support, Functional Analysts (FAs), CDOS Tier 2 team members, DRC, and the PMO. Using GTM the SCORE team members could access county desktops and directly assist counties real time with system functionality. GTM was a vital discovery in providing support for such a geographic diverse state and greatly improved adoption rate for the adoption of the system.

4.9. *Saber Field Support Redirection*

There were performance issues with how effectively the Saber Field Support was being managed. CDOS determined a management change was required and the SCORE PMO assumed responsibilities for managing the Saber Field Support Team.

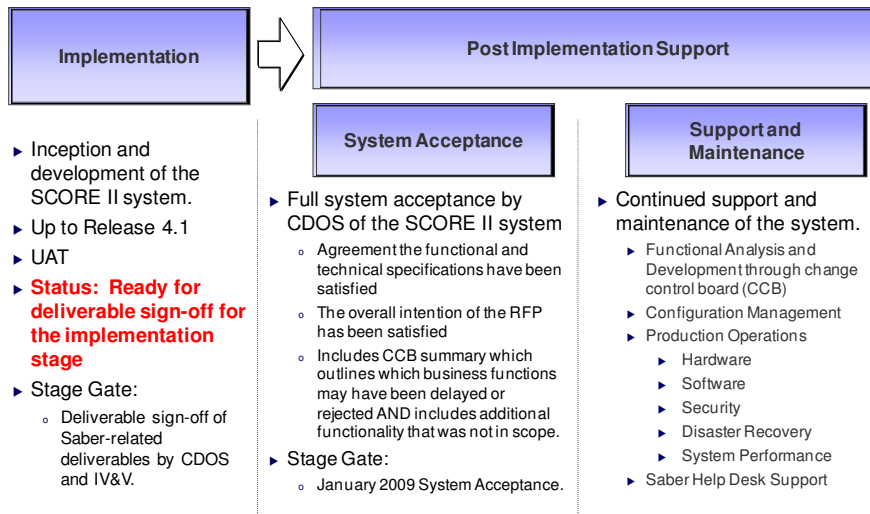
Rex Brown was asked to be the team lead and coordinator while the SCORE PMO determined the weekly schedule and activities for the team. A daily call at noon was established with the entire team and this proved to be very productive in addressing key concerns within the counties and providing better policy, technical and general direction for the team. The Field Support team responded well to the new management structure and this change drastically improved morale within the program while allowing for considerable performance management improvements on all fronts. Field support assignments were divided into the following geographic area below:



Early on during this change, the SCORE PMO requested additional FA support for Trent Parker so Manoj Bulani was transitioned from Field Support to CDOS to provide more advanced technical support. This change was instrumental in improving Trent’s capabilities to service CDOS and county demands. Jessica Williams was transferred from Salem, Oregon to cover Manoj’s territory.

4.10. *Saber Implementation Completion*

During this phase, CDOS formally accepted the system from Saber and transitioned from implementation to Post Implementation Support. Officially this was done on June 26th during the June Steering Committee Meeting. The figure below provides a summary of this transition.



The list of deliverables signed-off by the program included:

Deliverable	Status	Conditions	CDOS Recommendation
SCORE Readiness	• Accepted	• None	• Ready for Approval
Implementation Roll-Out	• Being Reviewed (July 3)	• Pending	• Pending Approval
Maintenance and Support Plan	• Being Reviewed (July 3)	• Pending	• Pending Approval
Hardware Installation	• Accepted	• None	• Ready for Approval
Help Desk Plan	• Accepted	• None	• Ready for Approval
Final UAT	• Accepted	• None	• Ready for Approval
Performance and Security Test	• Pending completion (July 15)	• Pending PST results	• Conditional Approval
Technical Architecture Document	• Pending minor revision (June 25)	• None	• Ready for Approval
Hardware Inventory	• Accepted	• None	• Ready for Approval
Software Inventory	• Accepted	• None	• Ready for Approval
Source Code Inventory	• Accepted	• None	• Ready for Approval
Configuration Software	• Pending Completion (July 3)	• Spirit Review by IV&V • Approval process from Saber	• Conditional Approval

At this juncture, the program transitioned from Puneet Agrawal to Karen Gale. The comparison in project management style was immediate as Karen provided high level facilitation and didn't provide valuable technical guidance like her predecessor. Puneet was an extraordinary contributor and leader for the program and his technical expertise was greatly missed. At this time Platinum Support Agreement documents were drafted for Saber to continue to provide application development and support, production operations support, and customer help desk functions.

4.11. Glenwood Springs Summer Conference

In addition to providing counties with 3 days of classroom training on the SCORE system during the County Clerks Association Annual Training Conference in Glenwood Springs, the SCORE

Program Leadership shared the outcomes of the Mock Election and the action plan for the Primary Election. Illustrated below, this summarizes key actions.

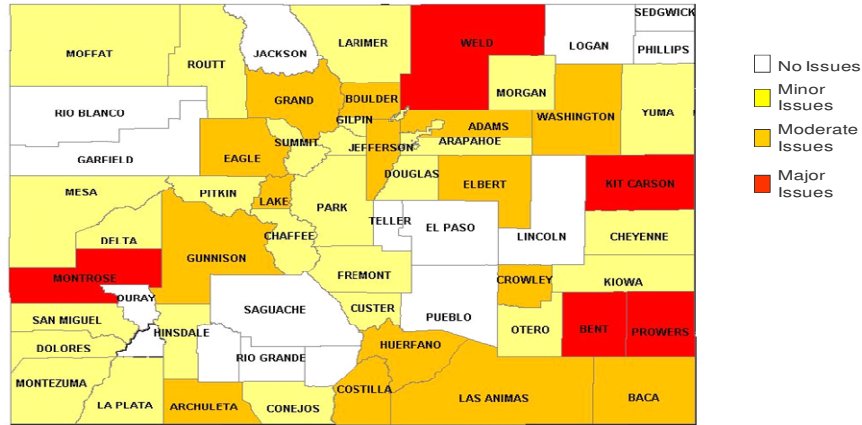
Issue	Action Plan
Connectivity	<ul style="list-style-type: none"> DRC hired and providing root cause analysis Progress on SSL errors appears to be made System Patch applied 5/16/08
Unaffiliated Voters	<ul style="list-style-type: none"> Set for 4.0 and 4.1 release Pollbook printing corrected in 4.0 release Pollbook back-end processing is set for 4.1 release Voter history posting is set for 4.1 release
Process Speeds	<ul style="list-style-type: none"> Address and resolve connectivity issues Review and improve business processes Defaults on certain fields would reduce mouse strokes Hot key deployment would cut processing time.
Report Balancing	<ul style="list-style-type: none"> Critical need reports identified and being provided in 4.1 (i.e., Void Report by Ballot Stage – 12a&b) Also, a query description for each report to be provided by Saber for reference by the counties (compare apples to apples).
Training	<ul style="list-style-type: none"> An extensive training plan to be developed with immediate implementation Counties are encouraged to repeat the mock election on their own to increase system familiarity
Vote Centers	<ul style="list-style-type: none"> Increase process speeds Unaffiliated voter issues affected processing Resolve tabulation interface issues for smart cards

4.12. Progress Resolving Network Technology Problems

The DRC team was in full swing during this phase and did their best work in resolving county and state based network issues. Survey results substantiated this progress:

	May-07	% of total	Jun-07	% of total	% Change
Critical	21	33%	5	8%	-25%
Immediate	12	19%	15	23%	5%
Problematic	21	33%	28	44%	11%
No Issues	8	13%	13	20%	8%
No Data	2	3%	3	5%	2%

A statewide network survey still identified significant issues across the state but the results were far better than the first North Highland assessment completed in February.



4.12.1. SSL Error Mitigation

SSL errors were basically problems with the application initiating a session. Simply put, counties couldn't log on to SCORE. Once logged on, these errors didn't perpetuate. DRC determined the issue was a load balancing architectural issue but Saber was resistant to making significant architectural changes to the production operation. The SCORE PMO agreed and solicited additional alternatives. DRC and Saber arrived at the conclusion scripts located on the clients would resolve the issue. The team tested the solution and it worked. A full scale effort to deploy SSL scripts to all counties was started in early June and by July; counties were no longer reporting this problem.

4.12.2. Jerky Mouse

It was believed network performance was at the root of the "jerky" mouse – meaning the mouse would bounce around the screen. DRC investigated the issue and discovered this was a system setting at the local level. DRC and the SCORE PMO communicated the solution in late May and by mid-June; counties were no longer reporting this issue.

4.12.3. Dymo Printer

Dymo printer issues were abundant in the early stages of this phase. Primary issues were with the printer mysteriously disappearing – this was due to not having the Dymo set as default. DRC provided a Dymo guide which was sent to all counties and referenced by both CDOS Tier 2 and Saber Help Desk. By July, there were only sporadic issues being reported relating to the Dymo printers.

4.12.4. Scanner Issues

Scanner issues were frequently reported during this phase due to the high number of voter registration and PMIV requests. Primary issues were basic scanner functionality and batch scanning. DRC provided a technology user guide which was sent to all counties and referenced by both CDOS Tier 2 and Saber Help Desk. By July, there were only sporadic issues being reported relating to the scanning equipment.

4.12.5. Network Slowness

Focusing on counties that seemed to have consistent latency issues, DRC worked with county IT staff to identify bandwidth issues. Jim Lundy from the CDOS IT operation assisted counties in procuring necessary bandwidth upgrades for these counties.

During this stage, there were still a sufficient number of counties experience intermittent network slowdowns. The SCORE PMO would escalate these to Saber and DRC and usually the issue was a county bandwidth utilization issue.

4.12.6. Site II Setup

On June 6th, the Saber team separated Site I and Site II for disaster recovery and business continuity efforts. There were no issues with this setup and it provided a sense of relief to have multiple data centers operational before the Primary.

4.13. Critical Policy Decisions

The following section outlines policy decisions made before and during the primary.

4.13.1. Duplicate Ballot Creation for PMIV Status Change

During the Primary, a critical business process was identified in terms of PMIV. County data entry staff could generate a duplicate ballot for the same voter by incorrectly inputting the election specific date in the system. Voters who had an active absentee ballot request would naturally receive a second ballot if they changed their address or party affiliation. However, given the high citizen demand for PMIV status, if the process was not followed correctly, the counties could execute a secondary ballot request by changing a voter who had already requested an absentee (MIB) ballot request to a PMIV status. The system would issue a second ballot even though there was no change in address or affiliation. The counties were immediately advised to make sure data entry personnel were entering the PMIV request beyond the Primary Election date so the system would recognize the PMIV status for the next election.

The team's customized extraction process identified this issue by returning duplicate ballot requests. The SCORE PMO team quickly performed data analysis, discovered the root cause, and communicated a process for counties to avoid this issue. Ballot requests that could be voided were made at the county level.

It is important to note only one ballot is tabulated and that's the first ballot returned. This policy was a classic outcome of poor business process definition with the new PMIV implementation. With proper process requirements, this issue could have been easily identified and eliminated.

4.13.2. Finalization of Voter Move

The most significant accomplishment from a policy perspective was the completion of the voter move policies. After Release 4.1 and emergency Release 4.1a in July, the processes for managing voters between counties was fully documented and communicated to all counties. CDOS moved from a policy implementation to enforcement of the voter move processes during this time. Additional training on voter move processes was provided statewide and supported through the CDOS Tier 2 and Field Support.

4.13.3. Data Entry

In response to Voter Move and the PMIV duplicate issue, an outcome of the County Summit was a request by the counties to provide timelines for when voter registration data entry should continue for voter registration received after the voter registration deadline for the General Election. It was determined counties should cease new voter registration data entry after the deadline until the General Election was certified and closed. This eliminated any potential conflicts with voter move and other potential issues. Guidelines for emergency registration and other registration policies were clarified at this time.

4.13.4. Unaffiliated PMIV

Many counties requested clarification on how to manage an unaffiliated voter who is a PMIV and decides to show up in person to cast a ballot in the Primary Election. It was decided the voter could affiliate and cast a mail-in-ballot but if they showed at the polls (including early voting) they would be required to cast

a provisional ballot. This was not a popular decision by the SCORE PMO but modifying the system to allow for this capability was simply not possible. This only impacts a Primary Election but CDOS should determine if this is functionality that should be modified for future SCORE releases.

4.14. Independent Performance Testing – July 4th Weekend

I-Beta was contracted to conduct independence performance testing on the Production Operations environment over the July 4th weekend. Due to a series of issues, only partial performance testing was completed. In the opinion of the PMO, the administration of this testing was not fully adequate to deliver a satisfactory level of testing. The testing conducted over the Holiday weekend provided some useful results and data but this testing did not fully test all of the system components and consequently left doubt about the capacity of the system to meet the performance loads for the General election. But in the end, the responsibility of the performance testing planning and execution was a responsibility of the SCORE PMO team and this simply was not the highest priority for the team at the time.

It is important to note that Saber conducted performance testing of the system and those results demonstrated the system would meet the performance requirements. The independent performance testing was designed to validate this performance. Given the poor progress on of this testing at this time, the SCORE PMO decided to conduct another round of performance testing over the Labor Day weekend.

It is important to note, the SCORE PMO believed at this time that system would meet the transactional load given the results from the Mock Election, Saber's performance testing, and the limited results from the July 4th testing by I-Beta.

4.15. Reporting and Custom Extractions

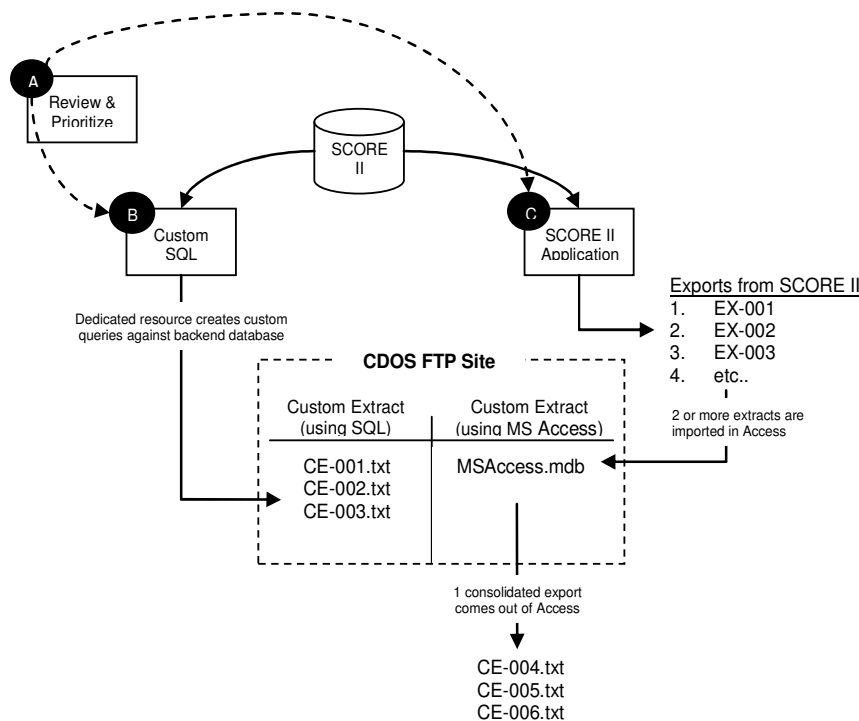
The need for accurate and timely reporting nearly killed the program, primary Matt Benson and Jean Morrill who were responsible for responding to the average 15 requests/day for custom reporting or data that could not be provided from SCORE.

4.15.1. Customized Extraction Process

The SCORE PMO announced the Custom Extraction Process for counties in May 2008 and immediately regretted this approach as nearly every county requested some odd variance of data or a specialized report within 2 weeks of starting this process. Matt Benson was quickly assigned to lead this process full time due to the high (brutal) pressure from counties demanding business data and reports.

Matt and Jean quickly established a working group with a few key counties and started a process for defining standard custom extractions that could be used for multiple counties. This group met weekly to verify new extractions and help prioritize new reports.

The team developed two methods for extraction. The following diagram shows both methods.



To simplify, the extracts were provided by either running custom queries against SQL and then provided to a secure FTP site. The FTP site had a directory for each county who could open the extraction at their convenience. For the second option, existing extractions were taken from SCORE and then joined in MS Access. These extractions were also available through the secure FTP site.

Both extraction types could be manually or automatically scheduled.

The major issues with this approach were:

1. Counties did not have the necessary technology to access the secure FTP site.
2. Many counties had no ability to use the extracted .txt files as they didn't have sufficient expertise with MS Excel or Access.
3. Many counties had never used a zip or compression tool.
4. The extractions rarely met all of the demands and customized versions were often required.
5. The scheduling function was problematic.
6. The architecture took valuable processing capacity from the SCORE system.

While these issues existed, the custom extraction process was largely refined and improved during the Primary election. Detailed summary of the available custom extractions is provided in **Appendix A**.

4.15.2. LEDS Reporting Solution

CDOS produced a competitive bid for the purpose to solicit proposals to develop a business reporting solution that can meet statewide and county specific reporting requirements. In summary, the vendor was responsible for the following objectives:

1. Development of a reporting solution for CDOS, including the design, development, and implementation of the data extraction process from the SCORE system. This includes:
 - a. Providing a reporting architecture that can scale and sustain for the Department. This should be a best-of-class industry solution for providing business intelligence or reporting solutions.
 - b. Developing a solution that has a self-service user reporting tool that allows user friendly reporting configuration.
 - c. Working with CDOS and other contracted resources on automating the extraction process from SCORE into the reporting platform.
2. Development of high priority, standard reports that can be used by CDOS to meet state reporting requirements. This includes development of county-based filters that should be developed to allow CDOS to temporarily provide county-based reports until Phase 2 (a county based solution) is operational.
3. Development of ad hoc or self-service reporting capabilities, in addition to the standard reports.
4. Quality assurance and testing of the reporting platform.
5. Providing training for using the reporting platform – including self-service custom or ad hoc reports.

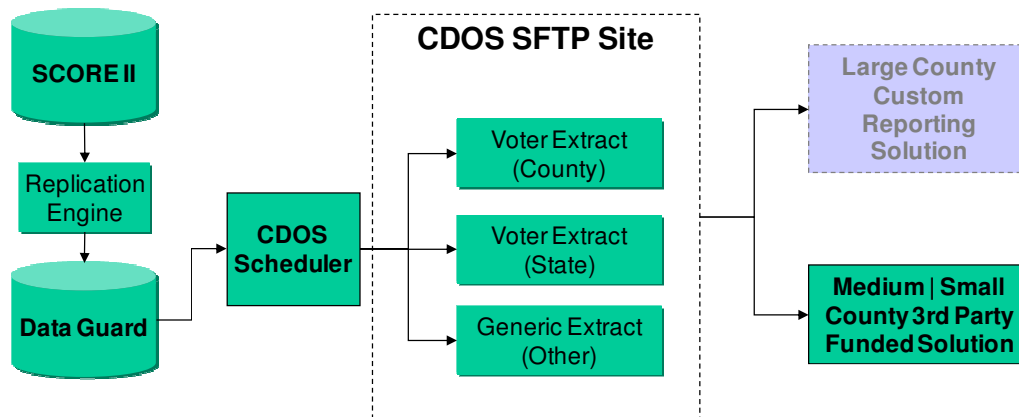
In addition to the requirements outlined above, the vendor had to have expertise with:

- Detailed and proven expertise with Colorado Elections, including knowledge of key business processes for voter registration, voter management, ballot management, and election setup and management.
- Business intelligence and reporting solutions for state and county entities including specific capabilities demonstrating:
 - Sophisticated reporting capabilities (ability to pull reports from multiple data sources) from a central system.
 - Best of breed data architecture solutions for reporting.
 - Self-service or ad hoc reporting solutions
- At least three (3) qualifications for best of industry standards for business intelligence and reporting solutions, ideally for an elections-related system.
- Providing a scalable solution for reporting and business intelligence. Specifically solutions that can manage the reporting requirements for the 5 million records.
- Evidence of a high performance system with metrics demonstrating the transactional capability to handle high user reporting concurrency.
- Demonstration of business continuity and disaster recovery for the architecture.

In the end, LEDS was selected during the bidding process based upon their ability to meet these requirements. This project was launched in August and was designed to first provide statewide reporting capabilities for CDOS and then develop reporting solutions that counties could leverage. The basic idea was a secondary reporting platform that didn't require the network connectivity or system processing capacity from SCORE.

During this phase, the LEDS project was started with Matt Benson, Bill Kottenstette, and Jean Morrill providing technical and business support. Bill Kottenstette acted as the business requirements analyst while Matt Benson and Jean Morrill were focused on providing necessary extractions for the data.

The prototype illustrated below was developed in early August for the CDOS reporting solution and the reporting architecture won CDOS approval for continued development.



4.16. Expansion of CDOS Tier 2

During this phase, major steps were taken to optimize and improve the CDOS Tier 2 Support Team. Vicky Stecklein was hired to supervise the group and two FTE were hired to provide additional support. The team matched Saber Help Desk as far as transactional volume and counties were very satisfied with this team – specifically knowing they could call CDOS and someone would immediately answer the phone and provide direction.

The hours were expanded from 7 am to 7 pm during the Primary Election cycle (starting mid-July) and an after-hours support option was setup. For after-hours support, counties would call the Saber Help Desk and the call would be relayed to a cell phone that was carried by a manager on the SCORE team.

4.17. Voter Look Up

The voter lookup functions at govotecolorado.com were directed to pull information from the SCORE system, allowing citizens to not only check their registration information but also the status of their Mail-In-Ballot (MIB). Citizens could enter in their name, address and date of birth to determine if their registration was current.

This enhancement was a critical service improvement for the State and represented the capabilities for the SCORE system to provide a useful statewide enterprise data service for citizens and counties.

Counties were directed to link their websites to this service – reducing the need for independent county-based websites that would perform similar functions. The data was refreshed every 24 to 48 hours and the site was heavily used as it became publicized in July. Internet traffic was so high that there were system performance issues. This is a vital enterprise service for the state and further investment should be made to continue to enhance this service.

4.18. County Summit – August 26th

Optimizing the program and building upon a productive county partnership led to the concept of the County Summit in August to follow-up on what the SCORE Team needed to improve for the General Election. Douglas County Clerk Jack Arrowsmith conceived this idea and Clerk Karen

Long from Adams County graciously hosted the meeting. Thirty two counties participated on in the event and the agenda centered on:

1. Understanding what CDOS is doing
 - What is the State doing for the General?
 - What are the big issues the State learned from the Primary?
2. Understand County Perspectives (Breakout)
 - What did the counties learn from the Primary?
 - What could be done better from the county / state perspectives?
3. Share Information across Counties (Panel)
 - What can the counties learn from each other?

4.18.1. Program Objectives

CDOS presented an overview of actions and expectations for the General. At this time the SCORE PMO identified critical program activities that the team needed to address for the counties. These critical objectives included:

1. Rebuilding the Clerk's Corner website (September.)
2. Producing a SCORE User Manual (October).
3. Re-tooling the webinars and training material for the entire system.
4. Improving system functionality components.
5. Doubling FA system capacity for the program.
6. Completing the CDOS LEDS Reporting Solution.
7. Finalization of the custom extractions catalog.
8. Release minimal functionality enhancements.
 - a. Fixing the carry button within the Early Voting module
 - b. Improving Emergency Registration functions
 - c. Resolving issues with the Poll Book generation
 - d. Allowing a New Ballot Exception method
 - e. Improving the E038 Report
 - f. Correcting the VC Programmer Interface

These objectives are further detailed in Section 5.0.

4.18.2. CDOS Lessons Learned

In addition, CDOS shared lessons they learned during the Primary. The following illustrations highlight these findings.

Area	CDOS Operations	Functionality / Process
Lesson Learned	<ul style="list-style-type: none"> • CDOS needs to use Spirit for tracking issues for Tier 2 support. • Counties need to use CDOS voter look-up for phone banks (311). CDOS needs to have this fully tested and operational. • CDOS needs to set expectations now for what can be expedited in the “back end” so counties can plan accordingly. • Counties require additional training on voter move and emergency registration. • CDOS needs to run a daily query on splits. • Operational CDOS communication shifting. 	<ul style="list-style-type: none"> • Do not regenerate ballot styles after ordering ballot stock and/or delivering ballots to voters. • Run a test file with vendors for ballot inventory importing. • Check vendor file for possible duplicates. • Counties must use early voting module live to conduct early voting. • Counties need to pull, issue, and receive mail-ins in the system. • Do not change address library after generating ballot styles without contacting CDOS. • Setup Early Voting site as office site. • When counties order ballots, the office stock needs to be highest number. • Counties need to place higher priority on managing duplicates – VR005

Area	Technology	Other
Lesson Learned	<ul style="list-style-type: none"> • Select counties have network latency issues which they need to address. • Memory issues result from activities such as poll-book generation and reporting. Users need to release these sessions. <ul style="list-style-type: none"> • Users log off and back on to SCORE. • CDOS requires additional ISP, vendor contact info. 	<ul style="list-style-type: none"> • CDOS requires better county contact information. • CDOS will lock down the environments. • Counties should pull poll-book. • CDOS needs to define standard terminology. • CDOS is identifying legislative changes to improve operations. • Some County roles / responsibilities are now integrated. • Only print absentee labels through print absentee labels in election management module.

4.18.3. Action Plan from County Summit

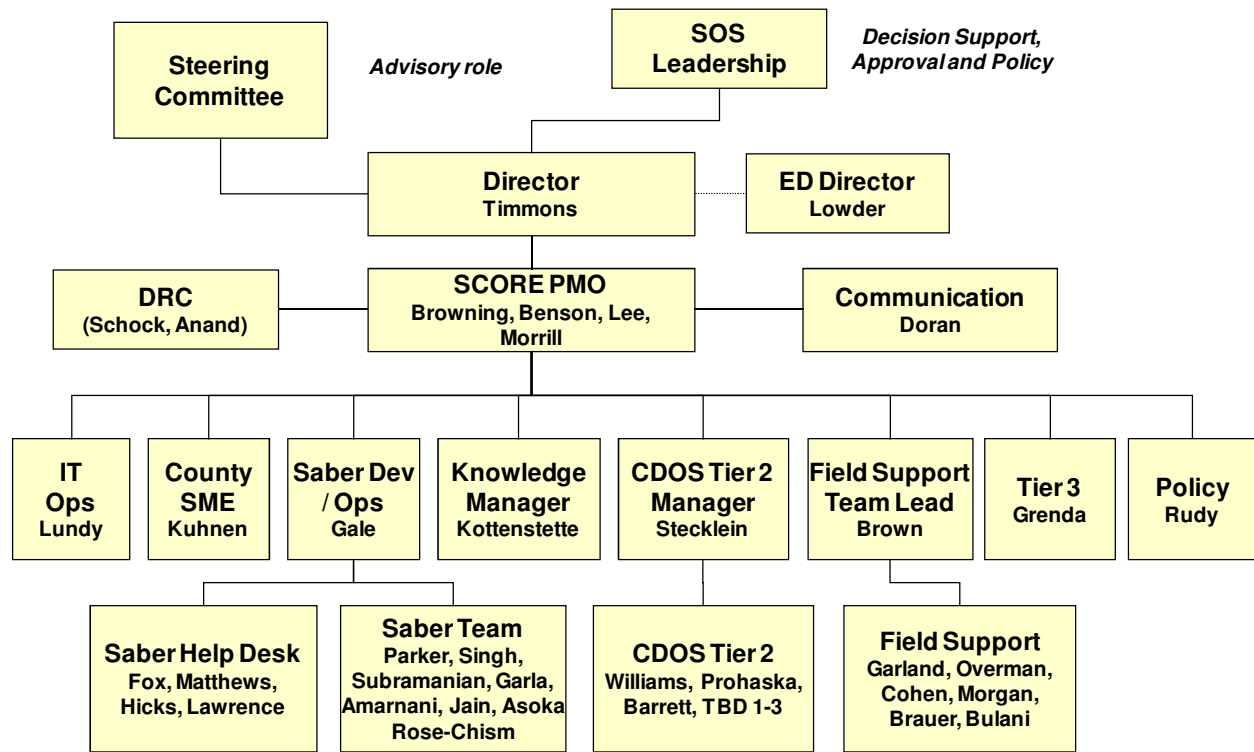
In addition to the programmatic objectives, the plan also included actions requested by the counties. These are provided in detail in **Appendix B**.

4.19. Actions Taken during this Phase

This section outlines the key actions that were taken during this phase. While not comprehensive, this section highlights the key changes and focus points for the team.

4.19.1. Organizational Actions

The organizational chart as of July 14th reflects the following changes detailed below.



The SCORE PMO placed priority on continual refinement of the organization and recommended the following staffing assignment changes were made during this time.

1. Jan Kuhnen returned to the team on June 22nd to provide support through the General Election.
2. Ken Slaughter was transitioned from the Saber Field Support Manager. Rex Brown was placed as the team lead and the SCORE PMO took over daily management of the Field Support team.
3. Manoj Bulani was moved from Field Support to help provide functional support with Trent Parker. Jessica Williams was hired from Salem to provide Field Support coverage for Manoj.
4. William Browning separated from North Highland and joined the State as a temporary state employee with a contract through December 1st, 2008.
5. The Dynamic Resources Corporation (DRC) was extended to provide network support through the end of November.
6. Jean Morrill was contracted through Wyant Data Systems to provide custom extraction support.
7. Puneet Agrawal departed as the Saber Project Manager as the project transitioned from implementation to support.

8. Karen Gale was hired as the Saber Project Manager and was staffed part time to provide management coverage.
9. Paula Barrett and Josh Johnson were hired to provide CDOS Tier 2 support.
10. Bill Kottenstette was transitioned from training to a Knowledge Management role.
11. Cameron Brauer left CDOS to take a position with Saber to provide Field Support.
12. Heather Williams left CDOS Tier 2 Support to attend graduate school.

4.19.2. Programmatic Actions and Results

The table below outlines critical actions taken and subsequent results through May 15th.

Program Action	Program Results / Consequence
Execute County Training Program	<ul style="list-style-type: none"> ▪ During this time, the CDOS team provided classroom training in the June CCA meeting in Glenwood as well as other regional training sessions. ▪ Self-service webinars were launched in force in June. ▪ A webinar and training for voter move and Release 4.1 was developed and distributed in July. ▪ Field Support provided rotational county site visits. ▪ GTM was used to provide on-site virtual training. ▪ Consequence: Less time should have been directed towards regional and classroom settings and a resource should have been dedicated day 1 for webinar production.
Improve3 CDOS Tier 2 Program	<ul style="list-style-type: none"> ▪ Additional resources were hired into this group. ▪ Vicky Stecklein was promoted to manage the group and provided both supervision and advanced technical support. ▪ A training program for CDOS Tier 2 was started during this phase but was never fully completed. ▪ Hours were expanded and after-hours support services were added. ▪ Consequence: A more aggressive approach to training and standardizing support for this team should have been a larger priority. This was largely impossible due to the large demand upon more senior experts in the program. There simply wasn't time or resource capability for sufficient knowledge sharing. The result was twofold: issues took longer to resolve AND sometimes the best solutions were not provided to counties. ▪ Consequence: One resource hired for a Tier 2 support position was terminated after work performance issues became apparent. The hiring process for this type of position should have included more involvement from the SCORE PMO and senior team members. Future hiring and recruiting of key positions should provide more opportunity for input by senior and knowledgeable team members to more effectively consider the character and qualifications of candidates.
Provide Better Reporting / Custom Extractions	<ul style="list-style-type: none"> ▪ During this phase, the customized extraction was refined to an art and the process by September was basically operational. ▪ The process was cumbersome for counties. ▪ Development of the LEDS Solution was initiated during this time. ▪ Consequence: The SCORE PMO should have focused on a webinar approach for the FTP and custom extraction process. ▪ A catalog of extractions was produced too late but was very useful

Program Action	Program Results / Consequence
	<p>for the General Election.</p> <ul style="list-style-type: none"> ▪ While Jean Morrill was an excellent resource, it would have been much more beneficial for CDOS to have a full time dedicated resource that could provide this service.
System Releases – Enhancements and Defect Corrections	<ul style="list-style-type: none"> ▪ Release 4.0 and Release 4.1 were released into Production during this time. ▪ UAT was completed for Release 4.1. ▪ Additional emergency releases were issued to correct critical functional issues for the Primary. ▪ Consequence: Release 4.1 was not planned and implementing this release so close to the Primary posed a significant risk as well as reducing county confidence in the Election.
Back End Support	<ul style="list-style-type: none"> ▪ Saber had the ability to provide “back end” functions such as making global changes to county data. These scripts could be run pending county approval to help resolve errors or expedite larger batches of data. ▪ Consequence: The counties were going direct to Trent Parker and other Saber resources without CDOS oversight. This was corrected during the General but the CDOS MUST move away from this dependency. There should be business processes and mechanisms for counties to follow instead of using technical resources to correct the issues. Most of these requests were preventable – meaning a county had incorrectly keyed data or had not correctly followed a business process or policy.
Field Support for Counties	<ul style="list-style-type: none"> ▪ Field Support was realigned and reported directly to the PMO. ▪ A daily call was established to better communicate with these resources. ▪ Manoj Bulani was moved to FA support to help provide Back End support. ▪ Rex Brown took over as team lead. ▪ Consequence: The change in management of the Field Support team should have been done earlier. Once this management change was made, the team performed much more effectively and as a team.
Voter Move	<ul style="list-style-type: none"> ▪ The initial scope defining how voter move was to be accommodated by SCORE was completed in May and scoped for Release 4.1. ▪ Consequence: There was a major failure that this issue was not identified and mitigated much earlier in the requirements gathering process.
Technology Issue Mitigation	<ul style="list-style-type: none"> ▪ The greatest risk to the program at this point was still network bandwidth issues. ▪ DRC was resolved SSL, printer/scanner, and jerky mouse issues, as well as identified bandwidth issues within specific counties. ▪ Consequence: There were still counties with network performance issues that DRC and CDOS could not resolve.

Program Action	Program Results / Consequence
Performance Testing	<ul style="list-style-type: none"> ▪ Performance testing was partially conducted during the July 4th weekend but was not robust to eliminate concerns for performance-related issues for the General. ▪ Consequence: As noted earlier, the SCORE PMO failed to manage this process effectively. Performance testing was largely unsuccessful and didn't provide the confidence for leadership. In the future, this process should be more structured and implemented in stages earlier in the project.
Data Migration	<ul style="list-style-type: none"> ▪ Supplemental data migration was completed during this time. ▪ Consequence: As noted, these efforts consumed county, Saber and CDOS resources.
Site II Setup	<ul style="list-style-type: none"> ▪ This was completed on June 6th. ▪ Consequence: There were no major consequences for this delayed implementation.
County Communication	<ul style="list-style-type: none"> ▪ County communication was further optimized with the County Summit. ▪ GTM was initiated during this phase for advanced support. ▪ The Daily Operational Score Card was initiated and included a summary of outbound county communication. ▪ Consequence: The SCORE PMO was bombarding the counties with too much communication.
Contingency Scenarios	<ul style="list-style-type: none"> ▪ These were only drafted and not completed to the necessary degree. ▪ Consequence: These were sufficient for the Primary but needed to be updated for the General.
Mock Election II	<ul style="list-style-type: none"> ▪ SCORE PMO decided against having the second Mock Election after Release 4.1 due to count staff bandwidth. ▪ The counties were able to run Mock scenarios in Sandbox and have CDOS Tier 2 support provide support. ▪ Consequence: The lesson learned here was to conduct mock elections after counties deployed into SCORE. Having a single Mock Election was beneficial but it would have been far more effective to conduct Mock Elections within county groups after they deployed into the application.
Voter Merge	<ul style="list-style-type: none"> ▪ Voter merge is the process to clean up duplicate records created from data migration and implementation. This is an automated function with SCORE but was not fully ready for Colorado at the time. The SCORE PMO determined it was too risky and time consuming to push voter merge during this phase. ▪ Consequence: If this function had been executed during this phase, it may have been in violation of NVRA's policy of an automated system-based cancellation of voter records. There were consequences to not performing this function – primarily the manual efforts for counties to perform duplicate voter checks.

Program Action	Program Results / Consequence
Multiple Ballots / Single Voter	<ul style="list-style-type: none"> ▪ Poor PMIV process definition resulted in an oversight in PMIV data entry resulting in multiple ballots being sent to a single voter. ▪ See longer description in the policy summary in Section. 4.13 ▪ Consequence: This was simply a process blunder and result of a new statute without a process overlay. There were too many assumptions that the county would know to change the settings for PMIV requests. This caused a significant political risk to the program but the team responded in concert to this problem with immediate communication and training.
Improve Voter Lookup Functions	<ul style="list-style-type: none"> ▪ Under Trevor Timmons' guidance and leveraging the customized extraction process, the CDOS IT team successfully updated the voter look-up functions. ▪ This function was requested by the counties and would allow a citizen to look up their registration information as well as status on their MIB. This was an exceptional enhancement as it provided counties with a service they could link to from their websites. ▪ This was for the entire state and was updated every 24 to 48 hours for the Primary. ▪ Denver 311 and other phone banks could now use this service for customer service calls from citizens. ▪ Consequence: While the service was a tremendous enhancement for the State, the planning of the infrastructure was insufficient. Demand on this system was far greater than expected and resulted in performance issues with the system.
County Summit / Lessons Learned	<ul style="list-style-type: none"> ▪ County input into the system functionality and the SCORE Program was vital and a summit with 32 counties was conducted on August 26th in Adams County. ▪ See longer description in the County Summit summary in Section. 4.18.2. ▪ Consequence: Setting the expectations clearly from the Summit was critical for this success. The SCORE PMO immediately distributed and shared the action plan from the Summit with clear expectations about what would (and more importantly) what would not change. Without this active and concise follow-up to the Summit, the outcome may have resulted in counties expecting major and unrealistic changes or system enhancements.

4.19.3. Risks and Issues (As of August 26th)

Having completed the Primary, the greatest risks now centered on external politics and system performance to handle the projected record election transactional load

1. Questions about how SCORE would meet the transactional demands were being raised due to the increased volume expected during the General Election.
2. There was an emergency release scheduled in October to make a few minor changes to the application. A production release so close to the General was risky.
3. The counties were about to initiate the Primary Elections functions in June and were not prepared, trained, or ready for these activities.
4. The SCORE Team was still relatively new and inexperienced with the system.

5. The SCORE Team morale was improved by the completion of the Mock Election but the team was exhausted and the work effort for May and June was going to be brutal for the entire team.
6. Supplemental migration was launched for key large counties and consumed key county capacity.
7. Voter move was still conceptual and untested and would remain so until Release 4.1 was in Production (less than a month before the Primary).
8. Counties had other responsibilities outside of SCORE, including voting system certification, motor vehicle, etc. These responsibilities were competing with the team's training efforts.
9. Reporting was a major concern for all counties and began to consume internal CDOS cycles. There was concern reporting would not ever be adequate.
10. Media and voter advocacy groups increased hostility to the program.
11. County publicity for the PMIV status and the citizen response was grossly underestimated and resulted in a CDOS reacting to developing policy in a reactive nature.

4.20. Phase Conclusions

At this point the greatest challenge was behind the SCORE Team. This was shared with the team shortly before the August 22nd County Summit as the SCORE PMO believed the General would largely be a success given the fact the following elements were not a part of the next phase:

1. There were no additional large functional releases.
2. Data migration was completely finished.
3. The team had learned how to address critical issues without panic and drama.
4. The counties had now used the system through an election.
5. The Saber Help Desk, CDOS Tier 2 and Field Support teams had become much more effective in resolving issues.
6. Training demands from the counties was greatly reduced.
7. There were no major new policy requirements.
8. The customized extraction and LEDS reporting solutions were starting to work.
9. PMIV registrations were slowing.
10. Large-scale performance operational changes and improvements had been completed.

The next section outlines how the team managed through the 2008 General Election.

5. General Election (August 23rd through December 1st)

5.1. Understanding the General Election

On a national level, the 2008 General Election was one of highest profile elections in recent history and the spotlight was firmly focused on the Colorado Department of State during this time. Most focus was on voter enfranchisement and naturally SCORE was highly scrutinized during this process. While the Primary Election was centered on getting counties to use SCORE correctly, the focus on the General was more on system performance and deflecting public scrutiny.

Key dates included:

- September 8 Ballot certified by Secretary of State
- October 3 Ballots for general election must be printed and in possession of the designated election official.
- October 6 Last day to register to vote for the primary election.
- October 20 Early Voting Starts
- October 31 Last day to apply for a mail-in ballot for the primary election if the ballot is to be mailed.
- October 31 Early Voting Finishes
- October 31 Counties Generate Poll Books, Setup Vote Center Connections
- **November 4 General Election**

During the General, the SCORE system supported the same business functions as the Primary Election. SCORE was modified with a minor release in September that impacted the following modules.

1. Early Voting
2. Ballot Inventory Setup and Management
3. Voter Registration (Voter Move)
4. Reporting

The key challenges during this phase involved managing the volume of data requests, managing network and system performance, and responding in coordinated fashion to the large number of media and legal challenges around voter records management.

The SCORE PMO had high confidence at the start of this phase. There were virtually no major issues during the Primary Election and the team was performing at a very high level. However, the high PMIV registration count was the best indicator that the election would be a success. High PMIV registration meant lower Election Day turn-out and a lower impact on SCORE system resources, specifically during early voting. The PMIV statistics were encouraging as over 60% of the voters would be voting by mail in ballot.

5.2. Program Culture

At this time the team was handling issues without major incident. The team was well trained and responded in a timely fashion to the issues identified by the counties. It was however the most challenging time as far as external scrutiny from the media and from voter advocacy groups. In addition, the Election Director retired during this phase, leaving a gap in leadership within the Elections Division. While the SCORE team was working on supporting the system and critical election functions, other Election Division staff were slowly becoming involved in SCORE-related issues and incidents, in particular the NVRA lawsuit (described in **Section 5.4**).

The absence of the Election Director accentuated the division between the SCORE team but SCORE had become a vital part of the Election operation and the other Division staff started to depend upon data from the system.

During this time, SCORE began the transition from a new system implementation to a business function. This necessary transition resulted in significant changes after the Election. Namely the SCORE PMO reduced the number of SCORE contractors to allow more opportunity for CDOS Staff. In addition, these contractual terminations helped protect longer term HAVA funding which is highly likely not to be renewed.

With the SCORE platform in place, the need for organizational transformation needs to be evaluated and appropriate actions initiated. The SCORE PMO's recommendations on future staffing for the Division were produced for the Secretary in November and primarily advocated significant changes in organizational structure. Some of these recommendations are provided in Section 6.0.

5.3. Incomplete Voter Registration Correspondence Issue

With any large scale system implementation, there are bound to be mistakes made and CDOS simply erred on incomplete voter registration correspondence. The correspondence is generated from SCORE when a voter's registration information is incomplete. The correspondence should have stated the voter had until Election Day to correct this information but instead the deadline in the correspondence that was provided was October 6th. Some counties did not use this correspondence but many did and approximately 4500 voters were identified as receiving this correspondence. CDOS immediately reacted by mailing correspondence to all impacted voters on behalf of the counties. In Addition, lists of impacted voters was provided to all county clerks so they could also follow-up using their own business processes. The CDOS Media Relations person coordinated a media response and the CDOS webpage provided additional information. The response was handled within 72 hours after the issue was identified.

5.4. NVRA Lawsuit

At the time of this report's production, there is an active lawsuit filed against the State. This report will not go into details on an open lawsuit but will provide the high level summary. The NVRA specifies that the state may only cancel three types of voters within 90 days of a federal election: deceased people, felony convicts, and those who withdraw their own names. However, counties were actively managing voter moves and had identified duplicate records within the system. These duplicates were put into a cancelled state. The lawsuit argues the cancellations were illegal as they occurred within this 90 day window.

The SCORE PMO provided the necessary transactional data to the CDOS leadership as requested. This was the only involvement in this lawsuit by the SCORE team. Further details on this lawsuit should be directed to the CDOS Media Relations.

5.5. Response to Purging

The New York Times, voter advocacy groups, bloggers, and other groups made public assertions that the Secretary of State and CDOS employees were “purging” voter records. These accusations were entirely false. First, SCORE doesn’t allow records to be purged or deleted. Records can be put into a cancelled state but they are still accessible within the system. CDOS employees and SCORE team members had no authority within the system to change record states to cancelled – only the counties can make these changes. At no time did the SCORE PMO or anyone from CDOS leadership instruct county personnel to purge or cancel records. CDOS recommended cancellation of duplicate records in terms of enforcement of the duplicate voter policy. It was seen as a best practice that the voter rolls should not have duplicate voter records and that citizens should only receive a single ballot. The CDOS team spent significant time and expense defending the accusations of “voter purges” when their intention was to ensure every eligible voter was registered and received a ballot.

5.6. Production Operations

Early voting was the pinnacle for production operations. From October 20th to the 31st, SCORE would face the highest concurrent sessions performing real-time transactions. In addition to conducting early voting, counties would be processing absentee ballots, issuing absentee ballots, entering and modifying registration data, and managing ballot inventory.

The production operations team was setup to respond to critical production failures and contingency plans were established for the SCORE system. DRC was extended through November 30th to provide additional operational support.

5.6.1. Critical Response to Production Operational Failure

During this entire phase, there was only one system failure. On October 22nd, during early voting, SCORE began limiting access to the system. Counties began to experience SSL errors around 11 am. Denver was the primary county impacted as they opened early voting at 11 am that day and the early voting polls were not able to connect to SCORE. The SCORE team was notified through multiple channels (direct from county and Saber Help Desk) and immediately put a plan into action. First, the issue was identified as a potential load balancing problem as one site had over 700 sessions while the second site had only a few hundred. Site 1 was not allowing additional sessions. The team directed Saber to immediately redirect users from Site 1 to Site 2 for new sessions. This was done within 30 minutes of the first incident.

In addition, Denver was directed to manually redirect all early voting sites to Site 2. This was done within 45 minutes and resolved the issue. Denver used a contingency option to continue to conduct early voting. Unfortunately, one election judge didn’t follow contingency procedure and issued a provisional ballot to a voter and this was reported in the media.

Within 97 minutes, the issue was resolved and all county operations were normal. Outside of the provisional ballot in Denver, there were no other issues reported as a consequence of this issue. The Secretary of State escalated the issue with EDS and requested a thorough investigation. EDS responded with a Critical Response Team (CRT) that investigated the issue

and determined the default configuration parameter on the web servers (Citrix gateway) that was set to 250 users. This unknown limiting value caused unavailability of the application.

The CRT provided a full report and action plan to provide a longer term solution. As of the time of this report, this action plan is currently being implemented.

5.6.2. IT Summit

Shortly after the Primary, a 1 day IT Summit was conducted with the principle IT managers and staff that support the SCORE system. Wyant Data Systems coordinated the summit with attendance from Saber, North Highland, DRC and the CDOS IT Division. The meeting was conducted on September 25th and defined the key actions needed to be completed for the General Election. The following summarizes the actions from the Summit.

SCORE Program Assessment

Status	Component	Description	Decision or Action	Timeline
Deferred	SSL Architectural Fix	Team decided to postpone SSL architectural implementation until January 2009.	Next decision point is "go/no go" on suggested DRC changes to the architecture.	01.15.09
WIP	Load Balancing	Purchase additional presentation level servers for both sites to ensure better load handling and memory allocation.	Decision on how many servers/site and agreement to purchase or lease needs to be made immediately.	10/4/2008 - Tied to the Citrix Licensing
Completed	Memory Allocation	Data Dynamics Active Reports is not releasing memory. Need an explanation as to why Colorado is the only State using the software.	Pending patch from MS, the decision is to release this into Production before the General.	If / When Microsoft Releases Fix
Completed	SSL / Comcast	Determination of which counties use Comcast as their ISP.	Collect this data from counties.	NOW
WIP	Citrix Licensing	Determination if additional licenses for Citrix are necessary.	Decision to exercise additional licensing and identification of how many additional licenses are necessary.	October 4th is the Drop Dead Date
Closed	Independent Performance Testing Results	Review IPT from Labor Day and identify additional risks that need to be mitigated.	Implementation of any risk mitigation from identified performance testing identified risks.	Depends on risks identified
WIP	Memory Retention issue	I-Beta identified a memory retention issue that needs to be mitigated.	With I-Beta's status, Scott should work with Saber to determine mitigation (if any) for this issue.	Depends on mitigation
WIP	User ID Clean Up	Saber to generate a user access list that includes last log-in information.	This report will be provided to PMO who will act with counties, CDOS to determine if these IDs should be maintained or terminated.	Saber complete by 9.19.08 PMO Complete by 10.05.08
WIP	Security Test Review	Wyant will coordinate meeting to discuss the new and old security findings and provide recommendations.	Coordinate meeting and provide recommendations.	Complete by 10.15.08
Completed	System Administration Activities	Saber will generate a complete list of pre-election System Administration tasks that will be performed.	Provide list to PMO / Trevor.	Complete by 10.05.08
Open	Test Platform	Saber will update the Test Platform configuration information and providing back to State for final approval.	Deliver TPC to PMO / Trevor.	Complete by 10.05.08
Completed	County Impact	State to inform counties of the system re-boot at 5:15 am every morning.	PMO to communicate operational impact to counties.	Complete by 9.10.08
Completed	Maintenance	Establish a maintenance window moving forward on Saturday evening for 2 hours (11 pm - 1 am).	PMO to communicate operational impact to counties.	Complete by 9.10.08
WIP	Log File - Optimization	SCORE IV&V and Saber go through the log files and discuss how they could be cleaned up to eliminate some of the "noise".	Recommendations to PMO.	Complete by 10.05.08
Completed	Indicative	Provide DRC with the latest Indicative License List.	Deliver list to DRC / PMO.	Complete by 9.19.08
Closed	Citrix User Memory	Saber to provide the CDOS documentation on the standard Citrix user memory footprint.	List provided to PMO / Trevor.	Complete by 10.05.08
Completed	User Communication / Spirit	A Spirit Ticket needs to be created for the SCORE out of Service Splash page when the system is not available due to a planned activity	Complete the splash page.	Complete by 9.10.08
Completed	Printer File	DRC to send over URL for newest printer UPD.	Deliver URL to Saber / PMO.	Complete by 09.19.08
Completed	Maintenance - Reboot Servers	Need to decide if Colorado should shut down server reboots (Election Day) ED-1, ED and ED+1 disabling of reboots.	Decision on reboot.	NOW

5.6.3. Performance Testing

Independent Performance Testing was conducted on Labor Day but like the July 4th testing, was not completed to specification. The SCORE PMO made the executive decision to forego additional testing due to high level of confidence in the system and with the high % of PMIV.

From the IV&V report dated September 15, 2008:

The SCORE IV&V Independent Security Test verification was conducted in September 2008, encompassing Log Reviews from the 8/12/08 Primary as well as methodical and ethical security testing spanning 9/2/08 through 9/5/08 and again from 9/8/08 through 9/12/08 was conducted by a team of highly qualified Security and IT professionals including;

- OIT Cyber Security Division – Vote Center Application Security Testing
- Secure Network Systems (SNS) – External / Internal Security Testing
- ISSC – External Scanning
- WDS – Data Center Facility Review – Oversight

The initial test was conducted over the course of a week June 9th through the 14th. Additional testing occurred the following week to verify issues that were logged in the initial test.

The reports from the three groups are attached for reference. Findings based on all three reports are inside of this document. No critical issues have been discovered. A meeting with Saber will be scheduled to review the findings and decide if any action should be taken. Overall the team found the system and application to be in much better shape than in the previous tests.

The SCORE IV&V is recommending at least one additional test immediately before the August Primary Election and if necessary once again before the system is locked down for the November Election, as many promised fixes for the 8/12/08 Primary were not implemented.

5.7. HAVA Funding / Contract Terminations

In order to reserve HAVA funding, the SCORE PMO made significant program staffing adjustments. These adjustments included the termination of the following contracts:

1. Saber Help Desk contract effective December 31st.
2. Saber Field Support contract effective December 31st.
3. Wyant Data Systems IV&V contract effective December 4th.
4. North Highland contract effective November 14th.
5. DRC contract effective November 30th.

These savings can and should be used for CDOS staff that can perform these roles without contracting resources. These funds may also be used for other projects to improve SCORE , some of which are outlined in Section 6.0.

5.8. CIMA Conference

Trevor Timmons and William Browning presented the Lessons Learned from the SCORE Project at the October Colorado Information Management Association conference. The presentation highlighted the various reasons for the successful implementation and delivered recommendations for other projects that involved deploying statewide technology.

5.9. Webinar Delivery

The training objective for the General Election was a complete set of webinars for the system. Within 3 weeks, CDOS Tier 2 (Alyssa Prohaska) produced over 20 webinars for the counties. These webinars were very well received by county staff. The catalog included:

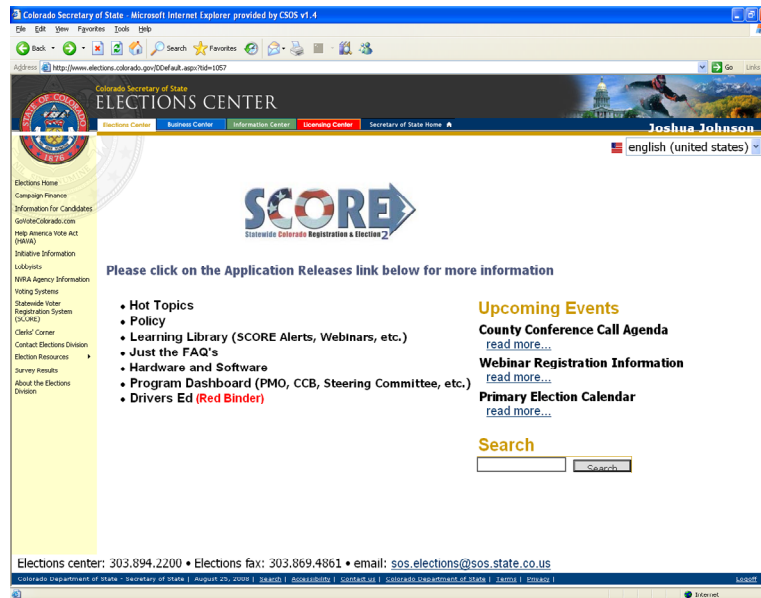
1. Election Workers
2. Election Setup – Ballot styles
3. Election Setup – Ballot inventory
4. Election Setup – Polling Places/Vote Centers
5. Election Setup – Absentee labels
6. Receive Absentee Ballots
7. Early Voting
8. Vote Center
9. Address Library / Districts & Precincts
10. System Configuration / User Admin
11. Federal Precinct and Overseas non-resident voters / UOCAVA
12. Replacement ballots
13. Election Setup – Poll Book
14. Close Election – Provisional Ballots
15. Reports and balancing specific to Election processes
16. Voter Move
17. Close Election – Poll Book
18. Close Election – Post History
19. Voter registration / Batch Scan (including effective date) / Voter Cancel
20. VOTER SEARCH
21. Processing petitions
22. Document Templates and Types
23. REPORTS & LABELS - General overview / Scheduling / Batch Management
24. CDOR Registration / CDOR Search
25. CDPHE Cancellations

The catalog of webinars will need to be updated in January with the latest release.

5.10. Clerks Corner Update

The Clerks Corner website was used by county clerks to access information about the SCORE program. This site was difficult to find information so the SCORE PMO was determined to improve the site. Bill Kottenstette was given an aggressive timeline of four weeks to restructure the site. The directive was to make it simple and not make it an archive site. Bill Kottenstette worked with CDOS IT and updated the site within the deadline.

The home page was structured for efficiency as illustrated in the screen shot below.



This simplified structure allowed counties to find information quickly. All files were named with their creation date to help counties identify relevant information. Files were cross referenced and indexed. The site was highly praised by the County Clerks as a major improvement for the State.

5.11. System Functionality

5.11.1. Emergency Release

The SCORE system was updated with a minor release in early October. This release contained the following functionality.

- E-038 Pre-Certification Report counts updated.
- BP-014 Multiple Ballot Report is now able to finish and generate.
- E-Poll Book Import updated and voters are given credit for voting.
- Voter Move is allowed even when the voter is on an E-Poll Book in the previous county as long as the Effective Date is before the Close of Registration and the voter has not voted.
- Flex Labels allow for 7 digit Absentee Sequence Numbers.
- Early Voting Location Type Check has been added when clicking Issue Paper, Issue DRE and Carry buttons. The user's logged in location should be flagged in Manage Election's Locations appropriately.
- Previously, the system allowed a user in the previous county to receive and validate a ballot from a voter who had since moved to a new county. Now, a new ballot exception is displayed.
- Process Poll Book - Accepted checkbox is now correctly displayed when scanning and processing voters from the Poll Book. The user no longer has to scan the barcode twice.
- Vote Center Success Message: The green message in Vote Center when vote credit is successfully marked has been updated to be, "Poll Book is updated. Issue Ballot or Voter Card for this Voter."

5.11.2. Functional Issues during the Election

The system had two functional issues that need resolution before the system should be formally accepted in January. These issues are being investigated by Saber at this time.

Early Voting / Same Ballot ID. During Early Voting, the system would generate 2 ballots to two different voters with the same ballot ID number.

Absentee Ballot Label Lock Up. Counties experienced an issue with printing absentee ballot labels where if a county user double clicked when printing; the system would lock up the entire county. The resolution required the county to call the Saber Help Desk and unlock the session.

5.11.3. January 2009 Release

The January release scope was defined and over 260 corrections to SCORE. The first release was placed into UAT on November 24th and included the following changes:

Voter Registration Module

1. Additions to Audit Log and Audit Log Report
2. Exemption (65+) and Additions (VRD) for Auto ID Required Flag
3. Transaction Sources Updated

Voter Search Module

1. Additional Output Fields

Petition Module

1. Delete Page and Section
2. Group Unaffiliated and Partisan Candidate Petitions

Other Functions

1. Voter Merge (Reports for Research)
2. Fail To Vote – Confirmation Card Status Changes
3. Multiple Report Modifications

5.12. User Manual Development

Saber Field Support resource Kathy Overman was redirected in late August to produce a county user manual for SCORE. Many county clerks had requested the manual in the spring but there was insufficient time and expertise within CDOS to produce this manual.

Within 5 weeks, Kathy produced a detailed user manual that was electronically delivered to counties in early October by Field Support representatives. A hard copy user manual was too difficult to produce in the timeline but CDOS should invest in an updated hard copy in 2009. Kathy Overman should be recognized for her extraordinary effort in producing a high quality product in such a short period of time.

5.13. Predictive Reporting

Given the lessons learned from the Primary, the SCORE PMO was able to run reports within SCORE to determine if counties were meeting statutory obligations and were properly using the system. These metrics are listed below.

- Election Setup
- Early Voting Location Setup
- Early Voting Inventory Setup
- Absentee Inventory Setup
- Absentee Ballot by Stage
- Poll Books Generated
- Poll Books Processed
- Election Closed

While the SCORE PMO may have been trying to help counties by informing them they needed to perform these business transactions, counties were concerned CDOS was interfering with the county election processes. This was not the intention – the SCORE PMO was only trying to make sure counties were knowledgeable and getting the proper support.

5.14. Reporting and Custom Extractions

During this phase, the SCORE PMO had refined the delivery process for customized extractions and was providing extractions in a timely fashion. In addition, predictive reporting was now being done for key functions such as identifying duplicate ballots by state.

5.14.1. Customized Extraction Process

The SCORE PMO refined the customized extraction catalog and provided this to counties. Extractions were provided upon demand or delivered automatically to the FTP site based upon an automatic schedule.

5.14.2. LEDS Solution

The LEDS solution started providing canned statewide reports in September 2008. This solution radically improved the ability for CDOS to provide statistics. The next section describes the key statistical reports provided.

Several counties signed up to be a prototype for the county based solution. As of December 1st, CDOS was managing the delivery of this reporting solution to counties.

The infrastructure for extractions and LEDS depended upon the Data Guard server. This server was designed to be a backup of the core SCORE database and therefore extractions and other reporting transactions were run against this system. Data Guard was not reliable for the most part (it should have been named Data Gone) as the server frequently crashed and had performance problems. There is a recommendation in Section 6.0 that addresses the need for a longer term business intelligence (reporting) architecture for SCORE.

5.14.3. Statistical Reporting

The SCORE PMO produced nightly reports for counties that provided state wide statistics for key voting transactions. This did not include tabulation but provided statistics on voter turnout and voter transactions by type (absentee, early voting, election day).

The SCORE PMO provided a nightly report to all counties on transactions to date by voting method. This included a precinct level report.

Using the LEDS solution, CDOS was successful in generating statistical reports that were uploaded on the govotecolorado.com website. These statistic reports were a great benefit from a statewide system and provided the following information (by county):

- Voter registration totals by party affiliation
- Voter registration totals by age and gender
- Absentee transactions by party affiliation
- Early voting transactions by party affiliation

5.14.4. General Election Statistics

The following illustration shows statistics by voting method by % Votes Cast and by % of Active Voters.

Method of Voting as a % of Votes Cast		
Method	Votes Cast	% of Votes Cast
Early Voting	365,054	15.5%
Absentee	1,528,020	64.9%
Polling Place	358,448	15.2%
Vote Center	103,573	4.4%
Totals	2,355,095	100.0%

Method of Voting as a % of Active		
Method	# of Votes Cast	% of Active
Early Voting	365,054	14.0%
Absentee	1,528,020	58.8%
Polling Place	358,448	13.8%
Vote Center	103,573	4.0%
Totals	2,355,095	90.6%

The following illustration shows SCORE totals as of 11/26/08 by county for key election transactions. These are not official results but the findings do show some surprising trends.

1. Over 2.4M ballots were cast in the election.
2. Approximately 62.5% of active voters voted by absentee.
3. MIB returns for the counties were well over 90% across the state.
4. Average turn-out for counties was 92.5% of active voters.

General Election Statistics (11/26/08)

COUNTY	Active Voters	Inactive Voters	Total Sent	True Active (Minus Sent)	Absentee In	% Abs In	Early Vote Totals	Election Day	Provisionals Cast	Total Vote Cast	% of Active Voter
Adams	178,655	42,214	117,258	61,397	108,753	93%	21,677	28,940	2,898	162,268	91%
Alamosa	6,313	2,521	4,644	1,669	4,447	96%	577	1,364	0	6,388	101%
Arapahoe	287,715	56,356	206,903	80,812	193,937	94%	25,881	43,796	6,346	269,960	94%
Archuleta	6,706	2,590	3,572	3,134	3,425	96%	1,525	1,525	60	6,535	97%
Baca	2,212	667	1,512	700	1,476	98%	196	533	11	2,216	100%
Bent	1,943	783	988	955	911	92%	428	609	15	1,963	101%
Boulder	186,414	31,975	121,438	64,976	116,447	96%	27,386	26,906	2,515	173,254	93%
Broomfield	31,589	4,595	20,982	10,607	20,080	96%	4,928	4,449	199	29,656	94%
Chaffee	10,828	1,886	7,701	3,127	7,508	97%	971	1,479	103	10,061	93%
Cheyenne	1,124	308	563	563	547	97%	171	407	0	1,125	100%
Clear Creek	6,353	950	3,577	2,776	3,426	96%	711	1,611	75	5,823	92%
Conejos	4,411	791	1,981	2,430	1,873	95%	493	1,532	62	3,960	90%
Costilla	1,775	646	554	1,221	532	96%	204	1,032	7	1,775	100%
Crowley	1,577	500	529	1,048	495	94%	299	787	7	1,588	101%
Custer	2,650	774	1,229	1,421	1,201	98%	827	622	6	2,656	100%
Delta	15,591	4,448	10,976	4,615	10,512	96%	1,598	3,271	250	15,631	100%
Denver	314,866	102,025	194,771	120,095	174,549	90%	49,768	44,345	9,190	277,852	88%
Dolores	1,236	316	730	506	694	95%	51	473	13	1,231	100%
Douglas	159,219	23,815	109,894	49,325	104,767	95%	25,288	19,965	3,207	153,227	96%
Eagle	24,044	5,739	12,042	12,002	11,338	94%	3,848	2,116	0	17,302	72%
El Paso	300,952	73,717	153,986	146,966	140,674	91%	37,139	89,916	9,045	276,774	92%
Elbert	13,930	2,491	8,816	5,114	8,483	96%	1,719	3,019	133	13,354	96%
Fremont	20,042	9,063	10,971	9,071	10,533	96%	4,119	5,412	142	20,206	101%
Garfield	26,351	4,902	16,286	10,065	15,601	96%	2,713	4,705	274	23,293	88%
Gilpin	3,420	1,432	1,723	1,697	1,613	94%	708	1,037	94	3,452	101%
Grand	8,388	2,770	5,299	3,089	5,044	95%	870	2,331	152	8,397	100%
Gunnison	10,092	2,329	4,805	5,287	4,567	95%	1,579	1,889	118	8,153	81%
Hinsdale	604	132	387	217	378	98%	44	181	2	605	100%
Huerfano	3,752	1,105	2,233	1,519	2,048	92%	673	942	89	3,752	100%
Jackson	923	397	489	434	473	97%	175	269	0	917	99%
Jefferson	311,162	60,562	229,220	81,942	217,883	95%	25,584	50,175	4,785	298,427	96%
Kiowa	869	151	426	443	416	98%	136	312	2	866	100%
Kit Carson	3,494	1,168	1,735	1,759	1,659	96%	163	1,627	49	3,498	100%
La Plata	28,624	8,992	15,269	13,355	14,329	94%	5,712	7,704	748	28,493	100%
Lake	3,072	1,418	1,203	1,869	1,143	95%	1,006	867	51	3,067	100%
Larimer	167,720	43,696	113,937	53,783	107,235	94%	32,319	24,888	3,869	168,311	100%
Las Animas	6,896	2,389	3,550	3,346	3,283	92%	1,046	2,450	163	6,942	101%
Lincoln	2,337	825	1,565	772	1,511	97%	171	641	22	2,345	100%
Logan	9,006	2,805	5,061	3,945	4,868	96%	1,185	2,987	24	9,064	101%
Mesa	77,445	16,499	44,302	33,143	41,959	95%	15,080	0	904	57,943	75%
Mineral	749	13	442	307	437	99%	53	141	5	636	85%
Moffat	6,790	1,753	2,334	4,456	2,202	94%	1,807	1,867	71	5,947	88%
Montezuma	11,933	5,143	6,472	5,461	6,111	94%	2,151	3,645	103	12,010	101%
Montrose	19,346	5,392	13,512	5,834	12,937	96%	2,609	3,558	264	19,368	100%
Morgan	11,671	2,383	6,882	4,789	6,591	96%	1,517	2,167	142	10,417	89%
Otero	9,166	2,631	5,140	4,026	4,716	92%	1,043	2,354	96	8,209	90%
Ouray	3,299	619	2,172	1,127	2,076	96%	304	690	19	3,089	94%
Park	10,227	2,244	6,185	4,042	5,920	96%	1,141	2,291	142	9,494	93%
Phillips	2,275	780	1,634	641	1,590	97%	117	555	12	2,274	100%
Pitkin	11,144	2,160	3,967	7,177	3,699	93%	3,513	2,853	114	10,179	91%
Prowers	5,506	1,180	3,083	2,423	2,973	96%	808	926	24	4,731	86%
Pueblo	84,768	17,951	38,770	45,998	34,800	90%	14,360	13,119	1,841	64,120	76%
Rio Blanco	3,762	647	1,497	2,265	1,450	97%	697	1,003	37	3,187	85%
Rio Grande	6,286	1,172	3,030	3,256	2,889	95%	628	1,963	45	5,525	88%
Routt	15,023	2,624	6,654	8,369	6,186	93%	4,469	2,436	301	13,392	89%
Saguache	3,049	761	1,704	1,345	1,564	92%	300	919	42	2,825	93%
San Juan	504	60	187	317	182	97%	179	141	1	503	100%
San Miguel	4,357	1,926	2,690	1,667	2,550	95%	725	1,090	8	4,373	100%
Sedgwick	1,369	517	844	525	834	99%	69	466	0	1,369	100%
Summit	17,126	4,324	6,666	10,460	6,278	94%	5,139	3,477	224	15,118	88%
Teller	12,972	4,661	5,524	7,448	4,994	90%	4,755	2,869	468	13,086	101%
Washington	2,796	385	1,500	1,296	1,449	97%	150	927	30	2,556	91%
Weld	107,178	32,326	67,052	40,126	62,421	93%	19,214	23,831	1,492	106,958	100%
Yuma	4,944	991	2,665	2,279	2,553	96%	325	1,619	50	4,547	92%
Totals	2,600,540	613,385	1,633,713	966,827	1,528,020	93.53%	365,041	462,021	51,161	2,406,243	92.53%

5.15. Actions Taken during this Phase

This section outlines the key actions that were taken during this phase. While not comprehensive, this section highlights the key changes and focus points for the team.

5.15.1. Organizational Actions

The SCORE PMO placed priority on continual refinement of the organization and recommended the following staffing assignment changes during this time.

1. Contracts were terminated with all contractors by December 31st. The exception is Saber Production Operations and Application Development.
2. William Browning moved to a contracting role on December 1st to complete the SCORE Assessment report for the Secretary.
3. Kathy Overman was hired as a Senior Analyst for CDOS Tier 2 and started on December 16th.

5.15.2. Programmatic Actions and Results

The table below outlines critical actions taken and subsequent results through May 15th.

Program Action	Program Results / Consequence
Execute County Training Program	<ul style="list-style-type: none"> ▪ As noted over 25 webinars were produced in August and September for counties. ▪ Consequence: These need to be updated in 2009.
Improve3 CDOS Tier 2 Program	<ul style="list-style-type: none"> ▪ Knowledge transfer from contractors to CDOS Tier 2 was not sufficient and was a consequence of other higher priority issues. Despite this, the CDOS Tier 2 team significantly improved their capabilities during this time. ▪ Consequence: This inability to transition knowledge will likely impact future operations however removing more experienced contractors does force CDOS staff to learn and grow, weaning them from the contracting staff.
Provide Better Reporting / Custom Extractions	<ul style="list-style-type: none"> ▪ During this phase, the customized extraction was refined with a new catalog and schedule. The counties became more effective using this process. ▪ The LEDS Solution went online for state reports and provided high value for CDOS by providing one stop reports for staff. ▪ Consequence: This process and associated tools are still too rudimentary for a \$13.5M investment. CDOS should explore better future state solutions for reporting.
System Releases – Enhancements and Defect Corrections	<ul style="list-style-type: none"> ▪ An emergency release was completed in early October to correct issues identified in the County Summit. ▪ Key functional issues that need to be resolved include the multiple Ballot ID and Absentee Label Lock Ups. ▪ Consequence: There were no consequences from the emergency release. The absentee ballot lockup was an issue and even after the SCORE PMO alerted counties about how to avoid it, it would still occur a few times a day.

Program Action	Program Results / Consequence
Back End Support	<ul style="list-style-type: none"> ▪ Saber continued providing back end requests but through Vicky Stecklein. ▪ Consequence: There is still too much dependency on the Saber FA team and 2009 should be used to reduce the need for these functions.
Server Installation	<ul style="list-style-type: none"> ▪ The SCORE PMO approved additional Citrix Metaframe servers which were installed during Early Voting (after hours). ▪ Consequence: While this decision was a good one, the transactional demand during early voting demanded the upgrade, the timing of adding these new servers triggered a production level impact resulting in a misbalancing of the architecture. It would have been better if this installation had been done earlier in the program.
User Manual	<ul style="list-style-type: none"> ▪ A decision was made to create a full user manual by redirecting a field support resource to write the manual. This was completed in several weeks. ▪ Consequence: Minimal consequence as the team covered the territory for this resource during this time.
Technology Issue Mitigation	<ul style="list-style-type: none"> ▪ The production outage in October was the only major event during this phase. It was resolved within 90 minutes with minimal impact to the election. ▪ Consequence: An election judge failed to follow contingency plans during this outage and issued a provisional ballot. This resulted in negative media exposure.
Incomplete Correspondence	<ul style="list-style-type: none"> ▪ Incorrect correspondence was sent from the SCORE System to voters with incomplete registration. ▪ Consequence: This resulted in a CDOS sponsored mass mailing to about 4500 voters across the state and also resulted in negative press about the Secretary and the Department. In the future, a project plan must include a review correspondence.
Clerks Corner Website	<ul style="list-style-type: none"> ▪ The website used by the County Clerks to download information about the program was completely upgraded and simplified. ▪ Consequence: The website needs constant upkeep and ownership but managing this should be significantly easier.
Contractor Roll-Off	<ul style="list-style-type: none"> ▪ All contracted personnel outside of the Saber Production Operations and Development contracts are to be terminated by December 31st. ▪ Consequence: The biggest consequence is losing the deep expertise from certain contractors. ▪ The other consequence involves replacing the Saber Help Desk with the CDOS Tier 2 Support team. This includes working to make sure SPIRIT is either continued as a service or another incident tracking system is implemented.
County Summits	<ul style="list-style-type: none"> ▪ At time of this report, county summits are being conducted in regions to solicit information from the counties about the General Election and future of SCORE. ▪ Consequence: None. It is vital for CDOS to continue to understand how they can continue to improve operations and SCORE.

Program Action	Program Results / Consequence
Contingency Scenarios	<ul style="list-style-type: none"> ▪ Detailed operational contingency scenarios were developed. These involved operational reaction and planning for a major disruptive event. CDOS team members were trained on these procedures. Media press releases and other communication vehicles were developed with these scenarios. ▪ Consequence: None – thankfully these scenarios were not necessary.
Voter Merge	<ul style="list-style-type: none"> ▪ CDOS has requested feedback on how to conduct voter merge. ▪ Consequence: The recommendation from the SCORE PMO is to centralize this process with a team of county and CDOS experts. Managing this process across the 64 counties will be difficult and will result in lower quality delivery.
Improve Voter Lookup Functions	<ul style="list-style-type: none"> ▪ Voter Lookup was expanded to include Provisional Ballot look-up functionality which was released in late November. ▪ Consequence: None. This service performed well and was heavily used by both citizens and counties.
August County Summit / Lessons Learned	<ul style="list-style-type: none"> ▪ All major actions from the August County Summit were achieved. ▪ Consequence: No consequence.
Colorado Department of Revenue Interface	<ul style="list-style-type: none"> ▪ The SCORE PMO was assigned to perform analysis on interface. The recommendation on this interface is provided in Section 6.0 around on-line voter registration. Essentially this interface doesn't work as well as it could – specifically with updates to voter registration information.

5.15.3. Risks and Issues (As of December 1st)

Having completed the 2008 Election season, the greatest risks now surround ensuring legislation and statutory changes can be accommodated within the system. Reducing operational costs will be a major driver in years to come and risks associated with reducing costs should be aggressively managed and mitigated. The following are activities that should be managed in the next year.

1. Building more standardized election business processes so CDOS and counties can better understand the base requirements of this system. Without this, there is great risk changes in policy or statute will be made that have unknown consequence in business process operations or system functions.
2. The financial risks are great in the near and longer term future as HAVA funds are expended. Running an effective but cost effective election will become a higher priority in the future.
3. Development of CDOS Tier 2 and other resources to be able to manage the vendor and continue to manage a stable business application.
4. Continued focus on developing a better enterprise reporting solution.
5. Developing and expanding county partnerships so policy and other key decisions are made with consideration for each party.
6. Development of a better strategy to manage the production operations environment.
7. Development of better user acceptance and quality assurance processes.

5.16. Phase Conclusions

Completion of the General Election using the SCORE system was a significant milestone for the CDOS and the counties. The foundation for improving how elections are conducted in Colorado has been established and this represents a new era for the CDOS.

Our recommendations for how Colorado should move forward with this foundation are provided in the next section.

6. The Future of Elections in Colorado

The following recommendations are the opinions of the Rebound Solutions Consulting Corporation. These recommendations are rooted from the experience of the SCORE PMO. They are concisely stated and are not meant to represent an implementation plan for the future.

6.1. Finance Modeling and Support for SCORE

County and State budgets in this economy will likely drive key decisions. HAVA funds will expire in a few years and there will be insufficient funds to manage elections like they are managed today. Counties will also need to start supporting SCORE costs in June 2010 and discussions should be conducted this spring to determine fair pricing for using this system and accessing the CDOS support functions. Too much money is being spent on providing services and systems in a disparate fashion. The state needs to expedite enterprise consolidation and standardization to begin reducing unnecessary costs and expenses by the 2010 election cycle.

The State and counties need to actively engage with the General Assembly on future funding and maintenance of SCORE.

6.2. Mail-In Ballot Election Business Case

In line with reducing election operational costs, the State should seriously consider adopting a Mail-In-Ballot status for all elections moving forward. With average of 62% of the electors already casting a MIB, the tipping point costs (cost per voter) becomes much higher to support the remaining 38% of the population.

In addition, the 90% return rate on sent absentee ballots and those received provides further evidence that the MIB process has a promising return.

Other states such as Oregon have moved to a MIB-only state and they have seen operational cost reductions over 60% for conducting statewide elections. With a shift to MIB only, the following business functions change.

1. Voter equipment management. DREs will still be necessary but in much smaller numbers. The storage, maintenance, and human capital costs associated with these systems is nearly eliminated.
2. Poll workers. The weakest link in the election process, the poll worker, is significantly reduced to providing support for ballot drop off locations and providing general support.
3. Polling Place Setup. The associated costs with managing polling locations are significantly reduced as drop off locations can be provided at significantly lowered costs.
4. Security. Security costs for protecting voter equipment and personnel are reduced.
5. County overhead. Staffing and management activity would be greatly reduced across county organizations.
6. Ballot Inventory. Ballot inventory processes are simplified but costs for mailing ballots would be an additional expense.

From a SCORE perspective, this change would have major ramifications and all of them positive. By reducing the election methods, the system becomes much easier to support and manage. The poll worker module could be eliminated. There would be no need for a SCORE

Vote Center or Early Voting modules. Enterprise reporting would be tremendously improved as the variable data elements are reduced.

There would be tremendous long term financial savings for the State to move to MIB only. While there is a political discussion to be made for providing multiple methods to voters, the financial implications of maintaining the status quo combined with the high turnout metrics for the new PMIV voters in the state (who now represent over 60% of the electorate) make a poor business case for the state. Our recommendation is to conduct a business case for the 2009 legislature to highlight potential benefits, risks, and financial implications for making this transformation.

6.3. Primary – Eliminate Early Voting

The business case for continued spending of significant financial and human capital for early voting for statewide primaries is, at best, unsubstantiated. The participation in the August 2008 primary for early voting was dismal but the cost to support continuous operations for SCORE and within the counties is tremendous. It should be understood the costs just for CDOS to manage the Primary Early Voting costs were tremendous as the entire SCORE team was dedicated to supporting SCORE. Our recommendation is to conduct an assessment for the 2009 legislature to outline the transactional costs per voter for the primary. We firmly believe the financial analysis would be shocking and would encourage elimination of this wasteful practice.

6.4. Process Requirements / Code Simplification

A critical priority for CDOS is to document the business processes for the election. This should be done using a use case methodology and should become the operational source of record for conducting an election in Colorado. There is a movement to improve and simplify the Election Code but this process definition should be done first as this should help legislative minds understand how the process should work and then the law can be modified or challenged to better enable these processes.

It is not advised that lawyers start challenging policy and rules without conducting the necessary due diligence on process first. This is a six month effort and will provide the following longer term benefits:

1. There was sufficient disagreement within CDOS about how some processes should be executed. This exercise would resolve open issues.
2. The use cases can be used for quality assurance and testing without major effort.
3. This gives CDOS an operational baseline to build future functionality.
4. As legislative changes happen, the process impacts are known immediately and the system functionality can be updated more effectively.
5. Process development will identify significant areas for improvement in system performance and operational procedures.
6. It allows for some flexibility (alternative flows) for the counties.
7. This has been proven to improve application quality. Saber had ‘redelivered’ functionality many times because the requirements were ambiguous. Use case development can eliminate this ambiguity.
8. Standard terms will be defined which is not the case today in Colorado.
9. It removes the notion that SCORE is a black box solution and gives voter advocacy groups less to question.

10. Saber can use these use cases for other states and leverage them to improve the product.

If the SCORE PMO had been hired in August 2007 instead of March 2008, this exercise would have been a first priority as it would have resolved major downstream issues such as Voter Move. A catalog of use case requirements is vital for the State and should be first priority during 2009. It is **strongly** recommended this is done first before trying to change policy and statutes. Changes in policy need and must be made but they should follow process development.

6.5. Poll Worker Management

Training and management of poll workers is a difficult and critical task. A more standardized approach to poll worker training is needed and the capability of SCORE to support activities in this area should be examined more deeply.

First, the SCORE Poll Worker module isn't sufficient for most county election operations – it is cumbersome and ineffective. In terms of recommendation 6.5, this is a classic outcome of poor process design. It should be noted this functionality is more suited to a Human Resources Information System (HRIS) as functions are related to recruiting, training and payroll. There should be some discussion about whether SCORE would even continue to provide this module in the future or if another mechanism could be used (i.e. existing county HR systems or a third party HR entity such as Monster.

However, outside of SCORE, there is a general lack of enterprise coordination for poll worker training in the state. With SCORE as a major system that poll workers will have to use, it is more imperative for CDOS to assist the counties with a better enterprise training model. We recommend the following steps to improve poll worker management.

1. Build an enterprise process for managing the poll worker.
2. Once the process model is completed, evaluate how this function could and should be implemented (Within SCORE or through another system.
3. CDOS should build an enterprise poll worker program that provides the structure that counties could leverage – reducing demands on the counties to prepare materials. SCORE is the core system for conducting an election – it is ineffective for 64 counties to create 64 different version of training material on a standardized system.

We believe this recommendation, in the longer term, will improve standardization across counties and improve the county's ability to manage and train poll workers.

6.6. Enterprise County Support

There are 64 counties that use business systems from the following agencies:

- Department of Revenue
- Department of State
- Department of Human Services

Considering that other Departments have regional offices, there are technology assets all over the state and each department is supporting these costs in a decentralized fashion. Each Department pays for technology support to manage in-county technology issues. The SCORE Team technical resources would cross paths with Department of Revenue IT staff in the same

county. The State of Colorado should consolidate county support efforts and build a more centralized and coordinated capability to better manage network, platform and business applications for our county partners. If this support can be provided more effectively, it will help address key issues with the SCORE system and future elections.

At minimum consideration should be given for 2 FTE paid by a CDOS and the counties. These resources should be cross trained in all Elections business systems and functions, should be able to train end users on all Elections business systems, and should have sufficient technical expertise to manage network and basic technology problems. One should be based in Denver and support the eastern side of the state with in-county field support. The other should be based in Mesa providing in-county field support for western counties. While centralized operations can provide a high level of customer support, the highest degree of satisfaction from counties was having CDOS personnel providing in-county support.

6.7. Governance Model

Having managed the SCORE Steering Committee, the governance model for the SCORE system was not effective. There needs to be a stronger partnership between state and county leadership. Our recommendation for improving the governance model is to move to a model where the counties have input into strategic decisions and policy.

The recommendation is to build a central Elections Steering Committee with county participants that are nominated by their peers to represent county interests. This group can assign committee responsibilities to other county participants as necessary – such as designing new forms or correspondence.

While CDOS must have statutory authority and that must not be challenged, the counties are significant stakeholders. They need a more concerted voice with CDOS. Failure to recognize this will lead to counties positioning legislative agendas without involving CDOS leadership.

There is room for a model partnership in Colorado for the counties and CDOS management. There have been excuses made for why this has been impossible in the past but a governance model should be developed and discussed. As with county IT support, an enterprise body between the State and counties to discuss and resolve major issues across the business services (motor vehicle, taxation and revenue, elections, human services) could be achieved. This has the greatest chance of success in Elections as a start.

6.8. Centralized Voter Registration

As part of cost reduction and common sense, the State should move to have voter registration data entry managed in a central facility. There is now a statewide database for voter registration and verification and it no longer matters if the data entry is done in the county or in a centralized facility. Counties expended significant financial costs paying for temporary employees, scanning equipment, computer terminals to perform data entry. The state has data entry facilities that can perform this service. The counties can perform the verification as this is where county expertise is most useful. In addition to saving financial costs, this allows smaller counties to focus on other business operations. It also will ensure higher quality controls as a centralized team will be significantly easier to manage and train. This could be completed within months and would reduce county overhead, improve quality, and save the State and counties valuable financial resources. This recommendation is directly relevant to the SCORE system as it will:

1. Reduce licensing and user administration
2. Improve system performance
3. Improve customer support-related issues
4. Reduce training overhead
5. Reduce system (data entry errors)

6.9. On-Line Voter Registration

In a world where electronic services now allow the most secure financial transactions, it is strange voter registration is not available through an on-line interface. With SCORE in place, this is a business process whose time has come. The number one problem with the current voter registration is illegibility and failure of the voter to follow instructions on the form. With on-line voter registration, both of these issues would be virtually eliminated.

This function would reduce data entry staff and associated capital costs. It allows a citizen to register 24 hours a day and would improve access for citizens. Internet adoption rates in Colorado are over 80% and processes could be built to protect citizen data while ensuring voter registrations are completed correctly. While there is concern about voter registration drives, the recent Obama campaign clearly demonstrated the value of using online mechanisms to manage voter registration and GOTV efforts. The movement to a self-service web site would naturally integrate well with future campaigns.

This recommendation would reduce (not eliminate) voter registration forms. If the first phase was centralizing voter registration, this second phase would help streamline this process even more. Signature verification mechanisms would need to be worked out as part of the process documentation exercise but there are no technical show-stoppers to enabling self-service voter registration. Measuring the positive impact of on-line vehicle renewal and the success of the CDOS Voter Look-Up functions, it is logical on-line voter registration would be hugely popular.

This recommendation also would likely replace the CDOR interface for new registrations and registration updates as citizens could be directed to update their information on-line. This recommendation is directly relevant to the SCORE system as it will:

6. Reduce licensing and user administration
7. Improve system performance
8. Improve customer support-related issues
9. Reduce training overhead
10. Reduce system (data entry errors)

6.10. Standardized Enterprise Ballot Management (BOD)

There is significant opportunity to improve how SCORE manages ballot inventory. CDOS and counties should collaborate on ballot-on-demand (BOD) systems and capabilities. This is much more complex than voter registration but leveraging the buying power of 64 counties and with defined business processes, there could be significant savings and efficiency gains by standardizing ballot inventory mechanisms.

6.11. Enterprise Reporting

CDOS made significant strides in providing data extractions and reports to counties and constituents. CDOS has three options for improving reporting capabilities.

Option 1 – Develop SCORE Reporting. This option includes improving the reports out of SCORE. While this will naturally occur over time, the model for having the transactional system provide reporting is an inefficient architecture. SCORE should provide some reporting but should be the transactional system of record.

Option 2 – Develop a Data Warehousing Solution. This option is preferred and creates a secondary data store where ad hoc and standardized reporting could be delivered for internal, county, and external entities. This requires building additional architectural components but would reduce performance impacts on SCORE.

Option 3 – 3rd Party Service Bureau. This option involves establishment of a contract with a data services bureau who would take a full data extraction from SCORE and provide reports and other services for a fee to all end users. This option is the easiest model to implement but the political implications of having to pay for standardized reports may be difficult to overcome. However, if the right model were created where standard internal reports were available at no charge for internal (state and county) users while external sources paid for reports and data, this model could work.

6.12. E-Poll Book

A high priority for CDOS and SCORE must be the deployment of an electronic poll book. Generation of a paper poll books is costly and the future pressure to reduce cost will mandate this electronic capability. This should be a top priority for 2009.

6.13. Production Operations Independence

Consideration should be given to have a 3rd party manage the production operations currently managed by Saber. There have been issues with transparency and the SCM process with Saber. CDOS should investigate other options to provide this service. It is recommended to issue an RFP to the vendor community (including Saber) to understand the various options that may exist for providing this service.

6.14. Improving Testing

As with process development, there wasn't time to fully challenge how user acceptance testing was conducted. While it was largely effective, it is recommended to build from the process (use cases) and produce test cases and scripts. Formal testing tools should be used instead of using SPIRIT for defect tracking. There should be traceability from the use case or functional

requirement to the test case and script. Formal training needs to be provided to county and CDOS staff if they are to continue training.

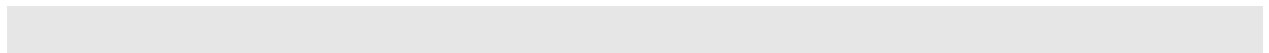
CDOS should consider hiring a testing firm that can train CDOS and county staff on proper testing techniques. CDOS could simply outsource testing but the process documents (use cases) must be completed or acceptance will be subjective.

6.15. SCORE Vote Center

All counties should have to use the SCORE vote center client. This client performed well during the 2008 Elections and there is no justification for counties to use other 3rd party solutions. Using these solutions creates multiple issues with data integrity and wastes valuable support cycles. This should be mandated for 2009 going forward. CDOS simply needs to stop supporting the 3rd party interface as this will limit the ability for counties to use other clients.

6.16. Standardize SCORE System User IDs

CDOS needs to standardize SCORE system user identification (user names) within SCORE. It is unacceptable that CDOS can't determine who the end users are on the system without referencing the system or a guide. Standard naming conventions should be mandated that provide county location and purpose. CDOS can control this process easily from a system administration perspective and counties will cooperate – they just need to know the standards.



7. Appendix A – Customized Extractions

The extractions listed below were available by the start of the General Election.

ID	Name	Runs	Operational?	Summary / Purpose / Description
CE-001	Ballot Tracking	Daily	Ready	This extract keeps track of all voter's eligible requests for a ballot through the (up to 3) stages of a ballot and requests (the numbers after the field name designates the stage). This is an Internal list, not all data can be disseminated to the public.
CE-002	All Absentee (Public)	Twice a week	Ready	This extract is a prelude to the E-032 extract. It contains all voters that are eligible to get an absentee ballot for the election that is in the title of the file. This includes voters that are permanent voters, those asking for a mail-in for that election, Calendar year for 2008, and other voters that have specific dates. This is a "public"
CE-002-I	All Absentee (Internal)	Twice a week	No Started	This extract is a prelude to the E-013 extract. It contains all voters that are eligible to get an absentee ballot for the election that is in the title of the file. This includes voters that are permanent voters, those asking for a mail-in for that election, Calendar year for 2008, and other voters that have specific dates. This is an Internal list, not all data can be disseminated to the public.
CE-003	Non Voters 2006	One Time	Can be run again at the request of Hillary Rudy	This extract lists all voters that voted in 2004 General election but have not voted since.

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ID	Name	Runs	Operational?	Summary / Purpose / Description
CE-004	Election Workers	Weekly - COB Thursday	Ready	This extract is a list of election workers, not specific to an election. This is an Internal list, not all data can be disseminated to the public.
CE-005	UOCAVA	On Demand	Not Started	This extract pulls all voters designated as UOCAVA out of the database with information pertinent to the UOCAVA Voter, including e-mail, PMIV and In-County Address. This is an Internal list, not all data can be disseminated to the public. - Possibly don't need until after the election; followup with Hilary Rudy
CE-006a	Voter Sig Cards	On Demand	Ready	This extract pulls all voters for a specific election for printing signature cards.
CE-006b	Voter Sig Cards w/ Vote Location	On Demand	Ready	This extract pulls all voters for a specific election for printing signature cards. This includes polling place addresses for the voter.
CE-007	Multiple Ballots	Daily	Ready	This is a list of potential duplicate ballots to a single voter with the same ballot styles and precinct. Internal list only. UPDATES COMING - remove any/all filters - add batch_ID

ID	Name	Runs	Operational?	Summary / Purpose / Description
CE-008	Voter Information Cards with District Types	On Demand	Ready	This extract pulls all voters for a specific election for printing signature cards with information. This includes additional district types for the voter.
CE-009	Petition Signatures	On Demand	Ready	This extract pulls all signature statuses for a specific petition. The extract is exactly like PM-005 but sorted by the name. It may include blank lines if data entry included lines and did not fill them out.
CE-011	Street Locator	One Time	Ready	This extract pulls all street addresses and their assigned ballot styles for a particular election. This is a public list. Also available in PDF Format- Sorted by Street Name, Address Range, Party Note: The last 2 columns are for proper sorting.
CE-013	New Splits (after ballot generation)	Weekly - COB Wed	WIP	Check for splits created after ballot styles have been generated; voters in these splits will not be eligible unless ballots styles are generated
CE-014	Polling Locations for the General	On Demand	WIP	SCORE-7605; All the assigned polling locations in the state of Colorado

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ID	Name	Runs	Summary / Purpose / Description
AAE-001	Precinct Locator	On Demand / Run by User	This extract can be used to create a precinct locator for your election judges to use on Election Day and at early vote. It includes street names with high/low ranges along with precinct and polling place so election judges can direct voters to their correct polling place. Precincts, splits and ballot style are also included so election judges can issue provisional ballots to voters based on their address. The extract includes other district information (commissioner, congressional, municipality, school, state house, state senate, ward) for the address ranges. This extract is also available in Report forms: either by Precinct or Street Name (PDF version in CE-011 above).
AAE-002	Polling Place ePollbook	On Demand / Run by User	This export is similar to the ePollbook export, but uses Polling Place export.
AAE-004	Absentee Voters Internal (Parsed)	On Demand / Run by User	This is a list of Absentee Voters (available after pulling) with the addresses parsed like EX-003.
AAE-005	Absentee Voters Public (Parsed)	On Demand / Run by User	This is a list of Absentee Voters (available after pulling) with the addresses parsed like EX-003. This list does not include voided nor confidential voters.
AAE-006	HCF Voters	On Demand / Run by User	The HCF export generates a report of voters who reside at Health Care Facilities. The report is broken down by facility name and contains voters who have their ballot sent to that facility and the status of each voter's ballot.

Appendix B – August County Summit Action Plans

The following section contains the August 26th Action Plans

Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Absentee Processing	When verifying signatures for absentees, a message pops up for 20 day period for registrations outside of 20 days. 20 day period doesn't auto update.	Review and verify. Develop work-around.	If Needed	No	Vicky	September
Absentee Processing	ID required when checking signatures on absentee ballots - system allows you to accept them without changing their voter record. When the voters get vote credit, the id required checkmark gets removed – only for ballots that were accepted, is based on status.	Counties need to understand records update when election closes.	No	Maybe	Vicky	September
Absentee Processing	PMIV added a mailing address and their ballot was voided by the system.	Review and verify.	If Needed	Maybe	Vicky	September
Absentee Processing	Absentee Precincts – how to manage these voters? Mail them a letter or automatically make them PMIV?	Policy will be reviewed and clarified.	No	Yes	Hilary Rudy	September

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Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Ballot Management	System will issue a ballot for voters in any status> pending, incomplete, or even cancelled because the request was still active even though the voter may have been cancelled – system should not be doing this. Canceling the voter does not cancel the Mail in ballot request. When the voter is cancelled the request needs to be cancelled.	Review and verify. Develop work-around.	Yes	Maybe	Vicky	September
Ballot Management	Unable to import ballot inventory if ballots had been sent before the import.	This is a process issue and work around is to set up vendor inventory line or import vendor file first.	Yes	Maybe	Vicky	September
Ballot Management	Need a process for managing supplemental files.	Develop process and share with counties.	No	Yes	Vicky	September
Ballot Management	Second original ballots are not able to be identified on labels, in supplemental files etc.	May require an emergency release to address this issue.	No	No	Vicky	NOW
Ballot Management	Would like additional training on Replacement ballots; specifically around the resync; also about the changing of mailing address.	Evaluate training need and put it in the training program if needed.	No	Yes	Vicky	NOW

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Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Registration	Emergency registration after early voting (satellite sites) - voting in the office instead of the satellite location.	Review and verify. Develop process and training.	No	Yes	Vicky	September
Registration	Voter Registration; Larimer had a difficult time after canvass when their undeliverable ballots from other counties were being pulled. Hold data entry until all counties are finished canvassing.	Policy will be reviewed and clarified.	No	Yes	Vicky	September
Registration	The state is going to have to watch the true VR count for before election cut off day. Larimer VR counts by Effective Registration date.	Develop process - holding data entry resolves this issue.	No	Yes	Vicky	September
Registration	Need to set a state policy to handle voter registration changes after the cut off and their impact on the canvass. All counties have to use the same process or it will be meaningless. Boulder feels that there is a lot of scrutiny by their canvass board, there needs to be a standard.	Process clarification	No	Yes	Hilary Rudy	September
Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Reporting	E-013 report does not have the correct totals if run using a date range; if no date range is used then the totals are accurate.	Defect that will be fixed in 2009.	Yes	No	Vicky	By October 3
Reporting	Running a list of absentee voters before "Pull Absentees" for a specific election (The report/export currently existing will give all absentees regardless of eligibility to a specific election.) Or rather a report/export that allows users to get active absentee requests. To verify the accuracy of their data entry against what's in SCORE. (Option in Voter Search? Active Absentee Requests.); FTP will accommodate this.	Custom Extraction	Yes	Maybe	Vicky	September
Reporting	Reports – more training on the purposes and uses of specific reports available from SCORE. An example includes balancing.	Evaluate training need and put it in the training program if needed.	No	Yes	Vicky	Now
Reporting	Training on Excel Extracts/ Custom Reports; how to use the FTP, it's far too confusing.	Evaluate training need and put it in the training program if needed.	No	Yes	Vicky	Now

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Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Batch Processing	Process batch is changing effective date.	Training issue - include into training program.	No	Yes	Vicky	September
Document Management	Document Retention. How do you file now? Rely on Scanning?	Process clarification	No	Yes	Hilary Rudy	September
Election Setup	Temporary polling places affected polling book processes.	Review and verify. Develop work-around.	Yes	Maybe	Vicky	September
Election Workers	Larimer County said that Election workers that were born in 1930 and before, the age was being changed to 2030.	Review and verify. Develop work-around.	Yes	Maybe	Vicky	September
Election Workers	Election Workers training information needs to be consolidated somewhere so that it can all be viewed on one screen.	Organize Clerk's Corner so this information is logically available.	No	Yes	Vicky	Now

Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Training	Training needs to be more timely and be offered before the election activity. For example - training on election business processes after the fact (offering training on early voting during early voting) isn't helpful.	Plan and execute training before processes start. Build webinar content that can be viewed at any time.	No	Yes	Vicky	September
Felon Check	Felon Business processes are not clear.	Develop process and share with counties.	No	Yes	Vicky	September
Poll Book Signature Cards	Signature Cards and Poll Books were having a discrepancy between some voters appearing or not. Saguache was not 100% aware of the selection.	Training issue - include into training program.	No	Yes	Vicky	September
Precincts	Training on use of the Federal precinct.	Evaluate training need and put it in the training program if needed.	No	Yes	Vicky	Now
Provisional	Process definition for the provisional module needs to be completed.	Develop process and share with counties.	No	Yes	Vicky	September

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Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
System Configuration	Training on system configuration is necessary.	Produce and conduct training session.	No	Yes	Vicky	September
User Administration	Capability to restrict access to election management when they have temp poll workers processing poll books, when they give the temp worker access to election management they have access to more than the counties feel comfortable.	Evaluate if this can and should be done for the General.	Yes	No	Vicky	Now
User Manual	Need an appendix in the user guide showing purpose of reports.	In progress.	No	No	Kathy	WIP
VCP	The VC programmer process could use some tweaking: Permissions, disconnects, "save-as" issue.	September Emergency Release, Technical adjustments	Maybe	Maybe	PMO	Now
Voter Move	Generally, communication and training needs to be better for voter movement.	Incorporate into training program. Create a voter move user guide.	No	Yes	Hilary Rudy	September
Voter Search	Voter Search, Third additional address columns, Arapahoe counties issue. Add all small counties region to this ticket. They all expressed a great concern.	Review and verify. Develop work-around.	Yes	Maybe	Vicky	September

Functionality	Description	What Needs to be Done?	2009 Enhancement?	Training?	CDOS Owner	Timeline?
Network	County connectivity has proven to be the "Achilles heel". Chronic latency vs. spikes in latency. Many of the counties have a lot going on over their connection.	IT Summit	No	No	Scott Lee	4-Sep
Network	We need to be proactive with the ISPs. At least one of our disconnect issues was a "scheduled" outage of which we were not aware.	Get ISP contact information and share critical schedule with them.	No	No	Lundy	Now
Technology	Slow printing, very slow. Batch Management. Sometimes there is a delay when printing in-between report pages, or the report in general, they don't know if it's going to ever print the report or not. Specifically only happens with the Xerox.	Review and verify with counties using DRC.	Maybe	Maybe	Benson	September