DOMINION VOTING™

Our customers come first.

State of Colorado
UNIFORM VOTING SYSTEM SUBMISSION

Provider Narrative for Dec 17th PERC Meeting

Prepared by: Steven Bennett, Regional Sales Manager
Proposal Due Date: Tuesday, December 15th – 5pm MST

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The Dominion Difference

To Members of the Colorado Pilot Election Review Committee:

Dominion Voting Systems, Inc. ("Dominion") welcomes the opportunity to be considered as Colorado's Uniform Voting System provider, and would like to thank the committee and our pilot counties for your hard work and efforts in this process.

At Dominion, we believe that listening to our customers and putting them first inspires great relationships, built on trust and bonded by loyalty. Over the past seven years, we have traveled throughout Colorado to learn about what you need and desire in a new voting system. We have demonstrated our technologies, listened, and made modifications based on your feedback. In fact, we not only listen to our customers but actually put their requests into action. We are undoubtedly the most active vendor in the development and certification arena, and will continue to listen and enhance our products accordingly. We understood that to best meet the needs of Colorado Clerks, and more specifically Colorado voters, we needed to simplify and innovate.

So we did! Today, we have a comprehensive solution for Colorado that is scalable, efficient, secure and accurate, built on feedback from our customers. Our solution starts with Democracy Suite, our robust and tested Election Management System that drives all voting channels out of a single comprehensive database; mail-in ballots, in person (VSPC) voting, accessible voting, and UOCAVA.

Flexibility and sustainability for the future

Democracy Suite is a fully integrated system that leverages off-the-shelf hardware that is affordable and flexible. Dominion believes that election officials need solutions that can adapt to changes that may occur to the voting model, or due to technological advances or legislative mandates. With a software-driven solution like Democracy Suite, when COTS equipment is end-of-life, we simply migrate to a different hardware platform while retaining the same software. **Democracy Suite is a modular solution that can be modified, upgraded, or expanded on a component basis, thus preserving each county's investment for the long-term.**

A true Uniform Voting System

Our core focus has been to design **a solution that will scale to meet the needs of any size jurisdiction – both functionally and financially**. We understand that small, medium and large counties have diverse needs, and Dominion will work with each county to customize the solution to best meet their needs. Based on the volume of ballots and in-person voters, counties can add ImageCast X or ImageCast Central units, **allowing all counties to realize the same efficiencies and cost-savings on the same equipment, regardless of size.** Smaller jurisdictions should not have to compromise speed, accuracy, or transparency just because of their relative size. With Dominion's system, counties are free to assist each other and share equipment as needed. With a uniform voting system, all counties will have a standardized approach for support, training, voter education and election processes, ensuring results that can withstand any legal challenges. Whether the county is small, medium, or large, we've built a true Uniform Voting System – one solution that all Colorado jurisdictions can use with consistent

ease, reliability and transparency.

Accuracy and Transparency

Dominion has invested in the development of technology that **truly sets its products apart from the competition**. The Democracy Suite system features Dominion's patented, exclusive ballot-level audit trail, AuditMark[®1], which not only creates a digital image of every ballot cast, but also appends to that image a record of how the voter's intent was interpreted by the voting system. With this process, software independent ballot-level auditing is easily performed by a range of election stakeholders: observers, candidates, advocates, and auditors. **The AuditMark is the only technology that provides a clear and fully auditable single vote cast record for every ballot cast in Colorado**, enabling the counties to meet the State's 2017 Risk-Limiting Audits requirement.

Local Support & Experience

Colorado is Dominion's home state - our U.S. headquarters are based in Denver, and we have a sincere desire to extend our vendor relationship throughout Colorado. Most of our proposed project staff are based in Colorado, and are looking forward to supporting the counties in which they live and work. Over the past thirty years, Dominion personnel have worked with Colorado counties of all sizes, giving us a sophisticated understanding of how to deliver a uniform elections solution. As an established election provider in the United States, we have a diverse customer base with jurisdictions in 18 states that have successfully implemented our Democracy Suite system, including the States of California, Louisiana, New Mexico, and New York. We are keenly aware of the realities involved and what it takes to make a smooth transition to a new voting system platform and we are prepared to ensure your success.

In Closing – Partnership and Innovation

Dominion's pursuit of ongoing innovation is fueled by the joint efforts of our employees and the wisdom of our customers. Our collaborative approach to innovation is what has made us an industry leader – **we are more than an elections technology vendor, we are a partner**. Based on what customers have shared with us, we are prepared to better assist all voters, including those with disabilities. Election officials across the country have asked for solutions that are scalable, efficient, flexible and sustainable, while maintaining a high level of security to deliver elections with accuracy and transparency. We have delivered this in our solution, and we will continue to deliver on our promise to listen to our customers', and innovate. Dominion is with you in putting **Voters First!**

The City and County of Denver and Mesa County's success in running four elections with Democracy Suite have garnered the attention of election officials across the country. Other states are observing the benefits of the Colorado voting model, and are looking to adopt it. The competition in the market across the United States continues to drive Dominion's technological innovation, and if Dominion is chosen as Colorado's Uniform Voting System provider, Colorado counties will continue to benefit from these innovations, upgrades, and improvements for years

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[1] AuditMark is a registered trademark of Dominion Voting Systems.

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to come. **Colorado is leading the way in election innovation and modernization, and Dominion is ready to be your partner in this effort.**

We are enthusiastic about the opportunity to work with each Colorado County Clerk and their staff. We are determined and committed to meet your every challenge. This is who we are. **This is the Power of Partnership.**

If you have any questions or feedback, please feel free to contact me at (909) 362-1715 or via email at steven.bennett@dominionvoting.com.

Sincerely,

Steven Bennett
Regional Sales Manager

Democracy Suite, the only Uniform Voting Solution for Colorado

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Overview

Democracy Suite powers the entire voting system out of a single comprehensive database, with **all the tools needed to simplify and streamline the process**. All voting channels – whether mail-in ballots, in person (VSPC) voting, accessible voting, and overseas and military ballot delivery – are supported and powered by Democracy Suite. Democracy Suite is a modular solution that can be modified, upgraded, or expanded on a component basis, making it flexible and sustainable.

Dominion's Democracy Suite Election Management System (EMS) is a complete, end-to-end elections solution that features two main software modules – Election Event Designer and Results Tally & Reporting. The Election Event Designer (EED) has all the tools needed to build the election project. Results Tally and Reporting (RTR) allows the counties to easily consolidate and track results from all voting channels and generate a wide variety of reports.

Dominion offers a number of options with respect to election definition and file set up procedures. As part of this submission, we have included the option for counties to either procure the full Democracy Suite EMS configuration (both modules) or the Results Tally Reporting (RTR) module only, depending on their jurisdictional needs. Counties requesting election set-up services from Dominion will need the Results Tally & Reporting module only, which will significantly lower their operating costs.

Full Democracy Suite EMS Configuration (Election Event Designer and Results Tally & Reporting)

Counties that choose to do their own election set-up will need the full Democracy Suite EMS configuration which includes both Election Event Designer (EED) and Results Tally & Reporting modules.

Election Event Designer (EED) has all the tools needed to build the election project. It is simple to import the County's SCORE and jurisdictional data, such as VSPC location, district, candidate and contest information. From there, the county can layout and design ballots, create audio files for accessible voting, and program and define voting machine behavior for each voting channel. Printed ballots are 8.5" wide and can vary between 11"-22" in length. The ballot can be double sided and, if necessary, multiple pages. **Since the system is fully integrated across all voting channels, the county only needs to proof one database**. The same data is used across all voting channels, whether paper, UOCAVA or in person.

The second key component of Democracy Suite - **Results Tally and Reporting (RTR)** - allows the counties to **easily consolidate and track results from all voting channels** and generate a wide variety of reports. Results are easily transferred from ImageCast Central and ImageCast Adjudication directly into Results Tally & Reporting.

Dominion understands that each jurisdiction has different reporting needs and requirements, and, as such, the system allows for the configuration and creation of a wide range of reports that can be easily accessed or customized. Reports can be exported in various file formats, and Results Tally & Reporting features a one-click results file export in XML format.

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Results Tally & Reporting Only

Counties opting to have Dominion provide election set-up services will only need the Results Tally & Reporting module of Democracy Suite. Dominion employs a team of product specialists who are experts in election definition and device programming. Dominion tailors the election definition process (including proofing, distribution, change management, etc.) to the county's needs. In general, the county (and/or state) provides the jurisdictional information to Dominion for import into the Dominion's Democracy Suite. Dominion then provides each county with ballots proofs (for all systems including audio) in order for the county to review and sign off on the ballot content.

Once all election files are completed, generally Dominion provides the encrypted database to the county for upload to the county's EMS server. The county will then create and load the election files into their respective devices (ImageCast X or ImageCast Central). Dominion can provide this service to the county as well, but because it is a simple process, most Dominion customers opt to perform these tasks on their own, thus further reducing their overall cost of service and support.

The county is trained and supported on how to use Results Tally & Reporting to efficiently consolidate results from all voting channels, and produce a variety of reports. Dominion takes pride in our ability to transfer to local officials the skills necessary to conduct even complex elections with autonomy.

Core Technologies

Dominion has invested in the development of proprietary technology that **truly sets its products apart from the competition**. Dominion's core technologies focus on ensuring two key aspects of the electoral process – **accuracy and transparency**.

Dual Threshold Technology

When a ballot is scanned on the ImageCast Central, a complete image is created and then analyzed for tabulation by evaluating the pixel count of voter mark(s). The pixel count of each mark is compared with two thresholds to determine what constitutes a vote.

If a mark falls above the upper threshold, it is determined to be a valid vote. If a mark falls below the lower threshold, it will not be counted as a vote. However, if a mark falls between the two thresholds (known as the "ambiguous zone"), it will be deemed a marginal mark, and the ballot will be sent to ImageCast Adjudication to be reviewed by an adjudication team.

Unlike other voting systems, Dominion's Dual Threshold technology ensures that each and every voter's ballot will be read the same every time. In a recount situation, you can be confident that the ballots will have the same results outcome every time the ballots are run.

AuditMark

Every single ballot in the election is imaged and appended with Dominion's patented AuditMark, a record of how the system interpreted the voter's intent. The **AuditMark is the only technology that provides a clear and fully auditable single vote cast record for every ballot cast** in Colorado, enabling the Counties to meet the State's 2017 Risk-Limiting Audits requirement. This ballot-level audit trail allows election officials and other stakeholders to review not only the ballot images, but the tabulator's interpretation of each ballot. Our patented AuditMark technology fully supports Risk Limiting Audits in conjunction with our digital export of all Cast Vote Record data.

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Ballot image with AuditMark:
This is a sample ballot image for a ballot processed by the ImageCast Central. All ballots on all tabulators are imaged and stored for auditing purposes. The image contains:

- Image of front and back of the ballot.

- Clear image of all text, ballot identifiers, candidates and voter markings.

- **AuditMark**: Ballot-level audit trail feature showing the results interpreted by the system for this ballot.

- On the ImageCast Central, the ballot images are saved by batch and the AuditMark features a time stamp to make auditing by batch simpler and more efficient. Each image is labeled with the tabulator, batch, and sequence number within the batch which corresponds to the physical ballot in the stack.

00002_00001_000001.tif scanned at 14:31:37 on 02/09/14.
Office of President and Vice President
    BLANK CONTEST
Office of United States Senator
    Vote for Sylvia Wentworth
Office of United States Representative
    Vote for Dennis Weiford
Office of Member of the State Assembly
    Vote for Camille Argent
Office of Mayor
    Vote for Van Jackson
    Vote for Esther York
Office of Proposition 30 - TEMPORARY TAXES
    TO FUND EDUCATION. GUARANTEED LOCAL PUBLIC
    SAFETY FUNDING. INITIATIVE CONSTITUTIONAL
    AMENDMENT.
    Vote for Yes
Office of Proposition 31 - STATE BUDGET.
    STATE AND LOCAL GOVERNMENT. INITIATIVE
    CONSTITUIONAL AMENDMENT AND STATUTE.
    Vote for Yes
Office of Proposition 32 - POLITICAL
    CONTRIBUTIONS BY PAYROLL DEDUCTION.
    CONTRIBUTIONS TO CANDIDATES. INITIATIVE
    STATUTE.
    Vote for Yes
Office of Proposition 33 - AUTO INSURANCE
    COMPANIES. PRICES BASED ON DRIVER'S
    HISTORY OF INSURANCE COVERAGE. INITIATIVE
    STATUTE.
    Vote for Yes

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Central Tabulation of All Ballots

ImageCast Central

Dominion's **ImageCast Central is a scalable & efficient central tabulation system** to meet the needs of counties of all sizes. A software-driven solution, the system is engineered for operational simplicity, using industry-leading commercially available off-the-shelf (COTS) hardware. The software is intuitive and requires minimal training for users.

Based on the volume of ballots, counties can add ImageCast Central units to maintain efficiency while remaining cost-effective. While the system is scalable and flexible, it also provides a uniform approach for centrally scanning ballots, thus ensuring that **all Colorado counties use the same, tried and true platform for central count and realize the same efficiencies.**

ImageCast Central is used to tabulate the results from all ballots, from all voting channels. It offers a simple and powerful interface, **which will allow counties of all sizes to process their ballots efficiently and securely**. As ballots are scanned, the system automatically electronically out-stacks all ballot images that need to be reviewed. Our ImageCast Adjudication module then takes over. The ImageCast Central operator does not need to pause ballot scanning due to exception conditions such as a blank ballot.
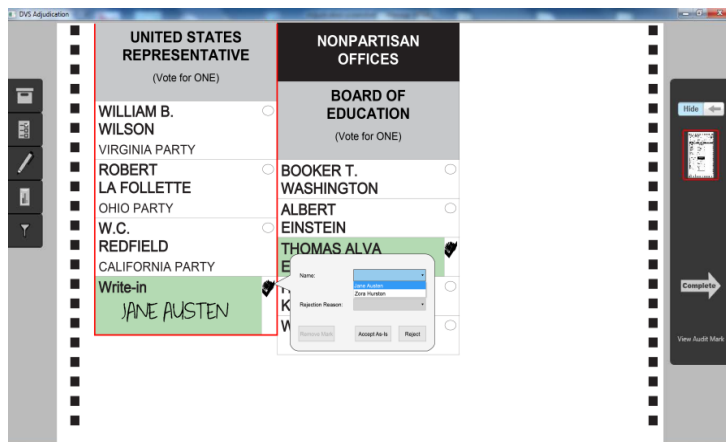
ImageCast Adjudication

ImageCast Adjudication is the digital tool which allows for efficient and reliable multi-user adjudication of ballots with customer-defined out-stack conditions. The module allows one or more teams to review out-stacked ballot images as they are being scanned by the ImageCast Central. Depending on county size, customers may choose to have multiple ImageCast Adjudication stations to allow for an **expanded capacity to review ballots in real time**.

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The customer defines which out-stack conditions should be reviewed in Adjudication, including blank ballots, overvotes, undervotes, marginal marks, and write-ins. **Dominion's digital adjudication tool is the only one available on the market to allow for easy and efficient write-in resolution.**

Each ballot scanned by the system is appended with an AuditMark. When a ballot is adjudicated, a log is created and an adjudication AuditMark is securely appended to the original image with the original AuditMark. Anyone reviewing the ballots will be able to see how the voter marked their ballot, how the scanner interpreted the intent, and how the ballot was adjudicated, as illustrated in the ballot image to the right.

The ImageCast Adjudication module allows review teams to resolve voter intent on a ballot-by-ballot basis on-screen and send the results directly to tally, **thus eliminating the additional costs, time and resources associated with duplicating and re-scanning ballots**.

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In person VSPC Voting: ImageCast X

One of the most exciting aspects of the proposed system for Colorado is the introduction of the ImageCast X, a VSPC-based ballot marking device. Fully integrated into the Democracy Suite platform, the ImageCast X takes advantage of existing, commercially available technologies – tablets and small laser printers – and is driven by a robust, secure and flexible application developed by Dominion. The use of compact, commercially available hardware makes the ImageCast X a cost-effective and versatile VSPC-voting solution. **It requires less space to warehouse and is more affordable than larger proprietary solutions, while at the same time offering full ADA compliance.**

In the current certification, the ImageCast X is a wired configuration, and as a continuation of development, the ImageCast X will be a self-contained ballot marking device with all ballot styles stored on each unit. Training for election judges is minimal and straightforward, with many commenting on the ease of use in their evaluations.

Voters navigate through the ballot on the intuitive touchscreen interface. At the end of their ballot, the voter will have an opportunity to review their selections, and can confirm or modify their choices before printing their ballot, directly in the voting booth. Once the ballot is printed, the voter deposits it straight in the ballot box in the VSPC, for tabulation on the ImageCast Central system at the elections office.

Accessibility
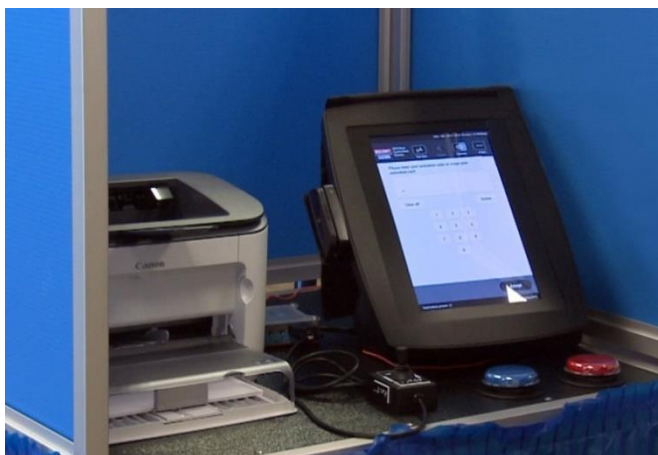
Designed as a voting solution for all, the ImageCast X also offers options for voters with accessibility needs – such as control over contrast and text size, being able to toggle between languages during the voting session or listen to an audio ballot, as well as allowing for the use of personal assistive devices, such as a sip n puff, paddles or joystick. Voters can adjust the rate and volume of their audio ballot depending on their preference. In addition, voters have the ability to completely disable the screen and vote solely in an audio-tactile mode to further preserve privacy.

All voters use the same device to mark their ballot, making it a truly universal voting device.

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Further options

Mobile Ballot Printing

Easily print ballots whenever and wherever needed with Dominion's Mobile Ballot Printing module. Fully integrated with Democracy Suite, the Mobile Ballot Printing module allows jurisdictions to **provide "Vote Anywhere" locations in a cost-effective and flexible way**. The system is hardware "agnostic," giving you the flexibility to use your existing print hardware or leverage other commercially available off-the-shelf (COTS) printers. Dominion is offering two printer size options to accommodate the different capacity-needs of the counties.

The Mobile Ballot Printing module integrates with SCORE, making the ballot style selection for each voter efficient and straightforward. The user-friendly interface presents clear information about ballots available to print, and features audit reports to track how many times each ballot style has been printed.

Democracy Suite ballots have interfaced with a variety of on-demand ballot printing solutions, and Dominion is willing to work with the current state vendor to provide this service to the counties. The vendors qualified to print Dominion ballots within a VSPC are subject to a printing qualification process conducted by Dominion for quality assurance.

Electronic Ballot Delivery – Dominion's ImageCast Remote (UOCAVA)

Dominion's ImageCast Remote UOCAVA system offers a secure and efficient means for overseas and military voters to receive, mark, print and return their ballot to their local elections office. The ImageCast Remote UOCAVA system ensures the security and transparency of the balloting process while preserving the privacy of UOCAVA voters.

Fully integrated and supported by Democracy Suite, the ImageCast Remote UOCAVA system allows election officials to conduct a seamless election, without the need for a separate database or election project. Ballots returned by UOCAVA voters can be processed on ImageCast Central, **eliminating the need to duplicate ballots or process UOCAVA ballots on a separate system**.

Election Night Reporting

As an optional feature, Dominion offers enhanced Election Night Reporting tools to create an Internet-based graphical display of results, which provides an attractive and dynamic focus on election night. Our HTML 5, cross-platform, mobile-friendly, results display is our standard and most popular configuration. The report display runs in real-time on the Internet, updating as results are released from the results tally module by officials. It can be projected on public display screens, such as County Offices, fed to local television stations, and/or displayed on the county or state's website. Dominion has flexible report layouts available, and can configure the display with the jurisdiction's logos and colors.

The Internet-based graphical display is completely automated and runs behind the scenes. Once election officials have released a set of results, XML files are created and

transferred to a local FTP directory (or via an external memory device), and the graphical display is automatically updated. This XML file is in an internationally defined election format called EML (Election Markup Language). As such, the election results are transferred in a format that can be easily read by news media, if they wish to import the XML files into their own display program (or they can simply use your Dominion graphical report for broadcast).

Automated Test Deck Generator

Dominion offers the Automated Test Deck Generator module as a means for the counties to create their own automated, comprehensive test decks for efficient Logic & Accuracy testing. Using the election project database, a series of vote-marked ballots are generated based on a computer algorithm designed to provide the highest assurance of system accuracy. When scanned, these automated test deck ballots create known outcomes that can be compared with the tabulated results.

The test decks provide verification of both the quality of the printed ballots as well as the correctness of each ImageCast Central tabulator's programming. The elimination of error due to mistakes in hand-marking ballots for L&A testing provides a high degree of confidence in the test results. The Automated Test Deck Generator module will help save time and resources for L&A without compromising accuracy.

Managed Services Program

Dominion offers flexible purchasing options. Colorado counties have the option of either an outright purchase, or participating in Dominion's Managed Service Program (MSP), an industry-first. A true service model, the MSP works like a lease, with the addition of all hardware, software, license, warranties and all elections services needed by the jurisdiction – the MSP even includes software updates. This figure is computed into an annual fee for six, seven or eight years. This way, the jurisdiction does not need to fund the whole system up front. As legal requirements change, the system must adapt to these changes, and for this reason, Dominion's MSP allows jurisdictions the flexibility they need to add, remove or modify system components to meet ever-changing rules and regulations.

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Technical Specifications for In-Person Voting

For all components used for in-person voting at Voter Service and Polling Centers, please provide:
   a.   State the weight of the component;
   b.   State the physical dimensions of the component (height, width and depth);
   c.   To the extent applicable, please also state the weight and depth of any cases or trunks in which the component is packed for purposes of transport;
   d.   Please be sure to include this information for all components of the ballot-on-demand system you offer (which, in Colorado, technically is not a part or component of a voting system).

ImageCast X Voting Terminals

ImageCast X Voting Terminal (includes enclosure, tablet, mag strip reader, etc)
Dimensions: 14" x 12" x 12"
Weight: 11 lbs

Canon ImageClass LBP6230dw Laser Printer
Dimensions: 11.5" x 9.6" x 14.9"
Weight: 16.7 lbs. (with ink cartridge)

Customers can choose a transport case from a variety of off-the-shelf options. Dominion does not provide the transport case.

ImageCast X Accessible Voting Components

The below items are added to the ImageCast X Voting Terminal above to make a complete accessible voting unit.

Tecla Switch
Dimensions: 1.5" x 3.5" x 3.5"
Weight: 0.5 lbs

Joystick
Dimensions: 3" x 2" x 3"
Weight: 0.25 lbs

ImageCast X VSPC Server Station

Dell Laptop - Latitude E7540
Dimensions: 0.8" height x 13.27" width x 9.13" depth (when closed)
Weight: 3.6 lbs
Power supply weight: 0.42 lbs

Dell PowerConnect 2816 Switch (16 ports)
Dimensions: 1.7" height x 10.5" width x 6.4" depth
Weight: 5.95 lbs

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Mag Card Reader/Writer MSR606
Dimensions: 2.5" x 2.5" x 9"
Weight (with power supply): 1.5 lbs

Dominion Mobile Ballot Printing Hardware Components

Mobile Ballot Printing Express Printer - OKI C331
Dimensions: 16.1" x 19.8" x 9.5"
Weight: 48.5 lbs including consumables

Mobile Ballot Printing Delux Printer - OKI C931
Dimensions: 27.5" x 24.6" x 25.2"
Weight: 215.2 lbs. including consumables

Dell Laptop - Latitude E7540
Dimensions: 0.8" x 13.27" x 9.13"
Weight: 3.6 lb
Power supply weight: 0.42 lbs