

CUYAHOGA COUNTY TABULATION VENDOR – ADDITIONAL QUESTION SURVEY

April 2019

Clear
Ballot



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

1. Are there any RFP's you did not win outside of Ohio? If so, please provide the name of the election jurisdiction and the date the RFP was released.

1. Cook County: July, 24th 2017
RFP# 1718-16167

2. Utah: May 12th, 2017
Solicitation #WA17018—Voting Equipment

3. North Dakota: June 18, 2018
RFP Number: 110.7-18-037

4. San Luis Obispo County: Sep. 13, 2017
RFP No. 1447

5. City of Chicago: July, 7th, 2017
RFP: Voting System

2. Have you been party to any litigation regarding any of your voting system (past or present)? Are there any lawsuits currently still outstanding? If yes, please provide the details.

Clear Ballot has not and is not currently party to any litigation regarding our voting system. There have been no lawsuits or any litigation naming us as an involved party.

3. Are there any known anomalies with your system?

We define an anomaly as when the operational results of the election have been called in to question or malfunctions lead to widespread disruption for election workers and voters alike. There have been no anomalies in any implementations of the ClearVote system.

4. What is your timeline from signing the contract to full implementation? What is your timeline for the delivery of all voting equipment? What is your timeline for staff training?

A countywide ClearVote implementation in Cuyahoga County will take approximately 4-6 months. The project will be led by a Clear Ballot Senior Project Manager with extensive experience in implementing large, and statewide, voting systems. In addition to the Senior Project Manager, the project team will include a Clear Ballot Customer Success Manager, Field Support Engineers (FSEs), Operations Managers and Trainers. This cross-functional team approach will insure Cuyahoga clear and consistent communication, that scope is managed



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

and complete, and that the project is delivered in compliance with contract requirements completely to the County's satisfaction while on time and within budget.

The transition process will begin with approximately 3 weeks of project planning to define and verify project scope and schedule. In a transition of this size and effort, every existing workflow in the County's election process will be reviewed along with contract requirements as part of a full analysis to determine project scope that all parties are in concord with. Our approach emphasizes thorough analysis in the planning stage to produce a gap analysis and logistical review in order to be certain that no process group or operational area is overlooked. The culmination of these efforts is a comprehensive countywide project plan, signed off on by the County.

Clear Ballot's approach to major projects like this transition focus on early consideration of logistics. Proper space, resources, logistical procedures and operational definitions must be established early in the transition to produce efficient receiving, unpacking, inspection and Acceptance Testing workflows. These efforts keep the project on schedule. Efforts will involve review of the County's warehouse facilities, proposed procedures for removal and disposal of existing equipment, and centrally staging new equipment and identification of facility modifications that may be needed prior to the delivery to each jurisdiction. A checklist of each test point verified by Clear Ballot FSEs accompanies each unit for the County's inspection.

When effective receiving, inspection, and inventory procedures have been established, receiving of product will begin. In a large implementation, our goal is to get the county a complete end-to-end system as soon as possible, followed later by the bulk deliveries of the equipment quantities ordered for precinct deployment. This approach provides the county with the ability to have a complete system to facilitate training, promote familiarization, and allow test development at the earliest possible interval. Within one week of receipt of the equipment, our FSEs will deploy to inspect and set up the equipment in the County.

Acceptance Testing is then conducted by the Customer. In order to prepare the appropriate staff prior to performing User Acceptance Testing (UAT), Clear Ballot will training on the setup and end to end operation of the system. This comprehensive training for all county Election Administrators is provided utilizing in-person classroom-style instruction in a lab-type setting that promotes hands-on familiarization. These sessions will also include mock election exercises. The scope, class size, and scheduling of these sessions will be worked out in concert with the County and during the Planning Phase of the project.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

Clear Ballot will provide a proposed acceptance test protocol to the County for use as a reference in developing the official User Acceptance Testing procedure and related artifacts. Our approach centers on an end-to-end test of the system. We believe in promoting open discussion with the County to determine Clear Ballot's roles and responsibilities in supporting the County's User Acceptance Testing (UAT), and upon definition of those roles, our staff will adhere to their assigned duties in supporting the UAT process.

The overall process to stage and deploy bulk equipment shipments to Cuyahoga is estimated to take within 4 months following contract execution. This implementation timeline estimate is based on the total number of machines needed applied across the delivery, setup, training and User Acceptance Testing efforts. Clear Ballot will also aid the County in development of a countywide voter education marketing campaign which will familiarize and prepare your voters and poll workers for the new voting system. A key component of this program is to educate them on all the benefits and efficiencies that the new system will bring to the County. Printed materials, video content, and/or regional in-person events will be developed in partnership with County stakeholders to insure the appropriate messaging is being delivered and that voters appreciate the investment Cuyahoga County is making to improve elections. Clear Ballot's commercial off the shelf hardware, provides the best of breed scanners, printers, and computer hardware available in the market today with Technical Support provided by Clear Ballot and certified hardware vendors. It is our goal to build robust relationships and partnerships between Clear Ballot team members and all stakeholders at Cuyahoga County. Our partnership is going to be decades long and we know that building trust and communication structures are key to successful long term business relationships. Providing exceptional service is what sets Clear Ballot apart from our competitors, and we look forward to proving that from day one. We are committed to your success and satisfaction, and we look forward to providing the most modern, secure, and transparent voting system available to Cuyahoga County.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

5. **What is your testing process in addition to EAC testing requirements?**

We embrace the concept of quality through continual improvement of our processes, procedures, and responsibilities for achieving quality objectives. Our business follows Lean principals, and uses OKRs (Objectives and Key Results) and KPIs (Key Performance Indicators) to measure the performance of the most important elements of our QMS process. Security-control related KPIs that we track include:

Zero defects
Zero security incidents
Customer satisfaction scores

Additionally, Clear Ballot Group requires an annual mandatory internal security training for all employees and contractors. Topics covered include:

Social Engineering
Passwords
Physical Security
Data Handling
Compliance

6. **How do we import election information from our VR system (DIMs) to the tabulation system (Districts, Precincts, Offices, Candidates, Issues, Locations, etc.)?**

The ClearDesign election preparation and ballot layout component can import the election definition from most voter registration systems using some of the more common formats in the industry. This import includes the parties, districts, precincts, splits, contests, candidates, questions, including the question text, and vote centers. The ClearDesign system can also import the voter registration counts by party and split. All entities (districts, precincts, split, contest, etc.) keep the primary import key (importID) in a separate field which is then passed on to ClearCount and can be exported with the results for transmission to the state.

7. **Are you willing to work with CCBOE to create a tool to import data from our voter registration system into your election system (if there is not one available currently)?**

While ClearDesign already accepts most industry standards, Clear Ballot will work with any voter registration system that Cuyahoga County currently uses, or may use in the future, to ensure compatibility.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

8. Is there an option to proof all Spanish data in reports prior to the ballot layout?

Yes, proofing can occur prior to laying out ballots. The ClearDesign module is used to create or import the election definition, layout, proof and produce both paper and accessible ballots in all supported languages, including Spanish. Language information can be imported, or prepared for translation by clicking a single button. After translation, ClearDesign imports the language information with another single click. Changes will be reflected real time, and Spanish ballots can be proofed/previewed/edited instantly before printing. Proofing of Spanish data can be accomplished within the 'Contests with Ballot Text' report, which shows the exact ballot text for proofing. Final ballot proofing is simple, with the ability to print one copy of each style in each language watermarked for proofing. This also includes all device messages as well.

9. Do you keep your software current with Microsoft Operating System changes?

With each certification campaign we have adopted the newest version of Windows to run with our ClearVote system. We historically have introduced new certified versions of ClearVote once a year for state certification allowing counties to upgrade and benefit from the newest OS changes.

For customers looking to keep the software current without upgrading to the next certified version, we outline how they can update Windows Defender antivirus software regularly. We also provide information on how to install Windows patches in the rare case there is a major security issue discovered with a particular version of Windows. We certify and test ClearVote to a version of Windows and that is what we install with the system for maximum stability and reliability.

10. How frequent is the release of software updates/upgrades? Is there a cost for this service?

Clear Ballot software updates are included in the cost of your annual software maintenance agreement. We typically certify one major and one minor release annually which focus on product enhancements (User Experience generally remains the same to minimize effect on all stakeholders). When to deploy each update will be determined by a mutual agreement between Clear Ballot and Cuyahoga County. The County can choose to upgrade their software themselves, or they can hire Clear Ballot Customer Success to perform the upgrade for them at standard billable rates.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

11. How long would preventative maintenance take on the precinct scanner, ADA device and central scanner?

Preventive Maintenance on the ClearCast precinct scanner, Fujitsu central scanners (for tabulating Absentee ballots, for example), and ClearAccess stations and printers takes approximately 15 minutes per unit. Maintenance for each unit requires cleaning wipes and a supply of consumables such as printer toner, paper rolls and ballot stock. Each unit is cleaned using a cleaning wipe and inspected to make sure there is an adequate reserve of ballot stock and toner in ClearAccess printers and paper tape in ClearCast units. Fujitsu central scanners are recommended, by the vendor, to have an annual maintenance performed by a Fujitsu certified Service Engineer, the cost of which is covered under the scanner warranty and therefore comes at no cost to the county.

12. Would we be able to create election media for each of our polling locations in the county, run test ballots, and upload results using limited scanners (reusing the same scanners) for the different polling locations?

Yes. All election media is created with data for each polling location residing on it. The election media is set to specific polling locations directly on the tabulation machine during the programming/L&A process. The same scanners can be reused to set election media to any desired polling location. However, Clear Ballot would like to understand the entire testing process to ensure a mutual understanding of the goals of the county.

13. What are the security environments offered with the Tabulation Server and Workstations?

The Clear Ballot system is designed as an isolated, hard-wire connected, stand-alone network. Physical control of the hardware is the first and the most critical step to ensure security. The small physical footprint of each component facilitates secure storage (e.g., in locked cages or storage boxes) when the system is not in use. Because all election software resides on a single, powerful database server, the Clear Ballot software is delivered to the local network of password-protected computers on an as-needed basis.

When the system is in use, attacks are prevented by password-protected, role-based access controls. Additional security measures, called “hardening”, prevent attacks by ensuring that only known software can be run on these computers and that unauthorized storage media are not recognized by the operating system. Preventing attacks on the integrity of the election is facilitated by a design that minimizes physical handling of the ballots. Additionally, because of



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

ClearVote's minimization of the handling of the physical ballots, the potential for human error or malicious attack is virtually eliminated.

The ClearVote system employs FIPS 140-2 certified cryptography throughout the system. All network traffic on the closed ClearDesign and ClearCount networks is encrypted with TLS/SSL. All election data, transferred to and used by the voting devices, that is stored on USB media drives, is encrypted with AES-256 or stronger encryption and signed and validated using SHA-256 HMACs.

Audit logs provide a detailed record of; all users who log in and when, all reports that are generated, and all human adjudication of ballots. Attempts of unauthorized users to log in are captured in these logs. Additionally, all media contents are digitally signed and verified. If any signatures are found to be invalid, the media is rejected, and the administrators are made aware of it.

The ClearVote system is U.S. EAC certified, it was thoroughly vetted for security, usability and accessibility. A rigorous security evaluation was performed by Pro V&V, an NVLAP accredited Voting System Testing Laboratory (VSTL), by a heavily accredited security team. Pro V&V also performed accessibility testing using standards set up by VVSG.

Finally, Clear Ballot does a comprehensive peer review of all source code prior to any new release to undergo certification. Our build process and development environment dependencies are thoroughly documented. Upon release of source code and documentation to the VSTL, the Lab performs independent compliance review and comprehensive security analysis based on the following standards:

United States Election Assistance Commission (EAC) 2005 Voluntary Voting Systems Guidelines (VVSG)

EAC Decision on Request for Interpretation (RFI) 2010-02 and

PEP 8 – Style Guide for Python Code (legacy.python.org/dev/peps/pep-0008/)

Once the software passes the above criteria, the VSTL independently generates a "Trusted Build" and archives the source code. The VSTL then provides a Test Report which includes the SHA-256 hashes of the Trusted Build(s) to ensure that election officials can verify that the software matches the System Identification Guide.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

14. Do you have a Disaster Recovery Plan for the Tabulation Server/Workstations without interruption?

Disaster Recovery Plan:

ClearVote is a paper-based system and, as such, the paper provides an important layer of disaster recovery protection.

ClearCount Disaster Recovery Plan: Central scanning results and card image files are stored in a centralized database that resides on the ScanServer as soon as tabulation of each batch of ballots is complete. No data is stored on a ScanStation client. This means that if any individual ScanStation computer fails, the jurisdiction need only re-scan the batch in progress. Finally, after each day's scanning, the election database (including ballot images) can be incrementally backed up to an external drive. The server is also installed on a RAID (Redundant Array of Independent Disks) so if one hard drive is compromised, the contents of the installation can be restored.

The Clear Ballot Disaster Recovery Plan details guidelines for determining plan activation, technical response flow and recovery strategy, guidelines for recovery procedures, as well as checklists outlining considerations for escalation, incident management, and plan activation.

Ultimately, Clear Ballot Group will work with Cuyahoga County to tailor a disaster recovery plan that meets state and county needs.

15. What is the standard capacity of one memory stick? Are there memory sticks with a higher capacity?

Clear Ballot provides 32GB encrypted memory sticks. Higher capacity memory devices should not be necessary but would be available upon request (and upon a certification campaign).

16. Are memory sticks only able to be uploaded into one results category?

Each memory stick is assigned to only one result category (counter group - Early Voting, Absentee, Election Day, Provisional, etc.) at the time of programming the ClearCast tabulators but they can be assigned to any counter group that the county wants to use it in.

17. Does the system provide election results in Excel format?

Yes, the election results can be exported in a .CSV file which can be easily read by and defaulted to open in Excel.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

18. What methods are available to transfer the data from high speed scanners? (Network/USB stick/other)

ClearCount, Clear Ballot's tabulation and central scanning application has its own server/client network. ClearCount communicates within its network over encrypted Ethernet connections. Encryption and data integrity is provided by TLS/SSL. Ballot images and data from the high speed scanner are transferred directly over this network to the ClearCount server for tabulation.

19. What reports and formats (XML/txt) are available for the election results during the upload process? Can these be generated without stopping the upload process?

ClearCount generates an XML export containing all election data. The XML file is used to generate results files in a format required for state results uploads. The XML file is also suitable to populate ENR systems.

Reports can be generated periodically on Election Night without stopping the upload process. Extract reports can be run at any time during scanning, for example, to provide a statement of ballots cast or a scanner throughput reporting for monitoring operations, or to give preliminary results after polls close on Election Night. Running reports does not interrupt scanning. Until the polls close, no election results are available, only the number of votes cast.

All reports can be exported by pressing a button to select the desired export format. CSV and XML exports can be run at any time during scanning after the first ballot is scanned. Until a highly credentialed user enables them, no election results are available – only operational reports.

20. Do you have a dashboard to see the status of the tabulation process (Number of sticks uploaded, Number of sticks not uploaded, Number of precincts)?

Yes. There are multiple upload status screens to view what has been received and uploaded and what is still remaining. In addition to this the ClearVote system can produce reports of the tabulation and scanning process for each scanner. A user opens the election dashboard and clicks the # boxes scanned link. From the tab that opens, the data available includes links to the Ballot Images report; the number and percentage of unreadable ballots, the model and serial number of the scanner, the scanner start and end time; the duration of the scanning; the number of ballots scanned per hour; and the number of precincts in each scanned box of ballots. Additionally, most reports can be filtered to show results by scanner, precinct, district, date, etc.



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

21. Does your system have page counters i.e. will it tell us how many pg. 1's, pg. 2's, etc. have been scanned for each precinct?

Currently, the ClearCount central reporting system is capable of displaying this information under 'Card Style' reporting. It is not, however, displayed directly on the the tabulators in each precinct. Providing this information directly on the tabulator reports has already been discussed and is on our road map.

22. How long would it take to backup/clear/restore 1,000,000 images?

The time it takes to back up depends upon the election size and ballot image size. Backups can be done incrementally every few hours or daily. Backing up an election consists of exporting it to an external drive and then securing that drive. Clear Ballot recommends a drive running at 7200 rpm. A 5400 rpm drive can be used, but backups will take longer. Backups comprise election-specific data, including related card image files and ClearCount election activity logs. Data and card image files are backed up to a folder named Backups/ElectionName. For large elections, use USB 3 connections (with a USB 3-capable drive and a USB 3-capable port) for best performance. USB 2 or USB 3 connections can be used to back up small and medium elections.

23. Is there a way to tabulate new ballots and then bring in Absentee results which have already been tabulated?

Currently our procedure would allow for a restore process of tabulated absentee results from a back-up of the election. Then additional ballots could be added to that. This is an area that Clear Ballot would welcome the opportunity to work with Cuyahoga County to meet your needs if necessary.

24. Does the tabulation system provide a Location based/City based test deck? We would like to generate our own test decks, what options are available to export data?

We understand that Cuyahoga County has a unique test deck design. We are committed to customizing a test deck process, including expected results, for Cuyahoga County that could be produced on site and printed in house or send to a commercial printer. We very much look forward to working with you on this project.

Clear Ballot already has tools to generate automated and customizable test decks. For example, Clear Ballot worked with King County, Washington to build a test deck with the following criteria. The tool also creates a results file to confirm the



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

expected results after scanning. Again, we welcome the opportunity to work with you on this.

25. How many days will be needed for Project Management and Training during and after the implementation period?

An implementation of the ClearVote system for Cuyahoga County, depending on the final scope of the project, will take approximately 6 months. Our approach involves utilizing Project Management early in the process to define requirements, which adds approximately 2 to 4 weeks of Project Management to the front of the project schedule. Thus the total Project Management during the implementation can run as much as 7 months. Typically after the Go Live, or the first Election, our Project Management Team will conduct a post-implementation Lessons Learned session and produce a report from this effort, adding an additional 2 to 4 weeks to the end of the project.

Clear Ballot has a variety of role-based training opportunities for Board of Election Staff (BOE Staff) and Precinct Election Officers (POEs), as well as “Train the Trainer” programs should Cuyahoga County wish to utilize them. Each course is delivered in person, includes hands on equipment exercises and is concluded by role-based documentation with pictures that documents procedures to follow before L&A, during L&A, before Election Day and on Election Day. Each document is provided to Cuyahoga County so they can adapt the documentation to meet their specific procedural requirements without having to author a similar document from scratch.

The courses recommended for implementation of Clear Ballot in Cuyahoga County are as follows, though many additional training opportunities are available for various audiences and level of detail?

Audience	Course	Length	Max Students
BOE Staff	Clear Design	3 days	8
BOE Staff	Clear Count	3 days	8
BOE Staff	Clear Cast/Clear Access	1 day	25
Train-the-Trainer	Clear Cast/Clear Access	1 day	25
PEOs	Clear Cast/Clear Access	.5 days	30



Cuyahoga County Tabulation Vendor – Additional Question Survey Responses

26. What is the timeline on a new precinct scanner? Will it be less expensive?

Clear Ballot is currently on track to have the new version of its precinct scanner certified by the end of 2019 for use by clients in the 2020 election cycle. This timeline is subject to change and Clear Ballot will keep Cuyahoga County updated on its progress and invite it into the process for feedback. Pricing has not yet been decided on the new version, but Clear Ballot guarantees the price of the system will not increase.

27. What is the timeline on a new ballot box?

The Ballot Box that was presented to Cuyahoga County is currently going through the certification process with a targeted completion in August 2019.

28. Can Clear Ballot fabricate a ballot container that is similar to the one we currently use?

Yes, Clear Ballot can be extremely flexible in the ballot box/container used because there is no separation component or firmware needed. Cuyahoga County should keep in mind that any new design or modification to the ballot box would need to go through a certification campaign, which will add time to the projected delivery date. Clear Ballot is willing to certify new system components for Cuyahoga County.

29. Is there another recommendation to set up the ADA unit?

Currently there is not another recommendation to set up the ClearAccess unit. However, Clear Ballot is currently developing an all-in-one ADA compliant ballot marking device that may be a better fit for Cuyahoga's preference. We would welcome Cuyahoga County's feedback on this device.

30. Is a backup battery needed for the ADA unit? Is a second one needed for the printer?

There is one (1) master UPS to power both the ADA unit and the printer for 2 hours. Most clients include this UPS as part of their emergency response plan in the event a location loses power.