

CUYAHOGA COUNTY  
TABULATION VENDOR –  
ADDITIONAL QUESTION  
SURVEY RESPONSES

April 2019

ES&S



## 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.**

CONFIDENTIAL

- 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.**

NONE

- 3. Are there any known anomalies with your system?**

It was discovered that a specific configuration of EVS 6.0.0.0, used solely in Johnson County, Kansas, was not optimized for performance when uploading master media USB memory devices for the ExpressVote Tabulator into the Electionware Reporting module. This issue was remedied in EVS 6.0.2.0., which is currently certified in the State of Ohio.

- 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?**

ES&S prefers an implementation window of 90 to 120 days from signing of the contract to ensure a successful implementation, which will translate to a successful first use. Delivery timelines are based off total equipment footprint in conjunction with the Customer's preferred delivery rate. Our distribution team is committed to working with Cuyahoga County to identify a delivery timeline that will suite its needs and ensure all downstream implementation tasks can occur accordingly. ES&S also will work with the County to create a training schedule acceptable for both parties after the equipment has been delivered.



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

ES&S has distinct and separate development and quality assurance departments. At different phases during the agile development process, developers will provide a build that will be subjected to thorough testing by the QA department. As an integral part of our certification testing process, ES&S has a dedicated team of quality assurance specialists whose primary responsibility is to conduct stress, volume, and regression testing for all hardware and software components of the system that will be certified by the VSTL, EAC, and the county certification bodies.

1	Developer test – both functional and automated unit testing
2	Quality Assurance Feature testing – software and firmware builds are dropped to QA to test features against functional requirements.
3	Full regression, integration, and volume testing – the entire system is tested to insure all previous and new features and products work properly.
4	Pre-federal cert testing – system testing to simulate the tests that the labs will run to insure that system do not experience issues at certification
5	Pre-state certification testing – state certification managers test the system against the certification requirements of target states to insure compliance with requirements.

The rigorous testing methodology allows us to completely test each new release from end-to-end before it is reviewed by the federal testing authorities. The testing plans are built to thoroughly stress each component to validate that the entire system meets or exceeds the VVSG requirements mandated by the EAC.

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

Electionware features a robust import feature that allows a significant amount of election information to be imported with a single click of the mouse. Types of information that can be imported include Parties, Precincts, Districts, District-to-Precinct relations, Contests, Candidates, Ballot Questions, Polling Places, Poll-to-Precinct relations, and more. You may also import foreign language translations for all of these items. The import files themselves can be formatted as fixed length fields or can be delimited.



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Both ASCII and Unicode formats can be imported, which provides support for multi-byte character languages such as Chinese. Header rows are used to define the table and field names of the information contained in the import files. Because the import files can be viewed in Microsoft Excel, many of our customers perform spell checking in that program prior to performing the Electionware import.

All of the ballot question text and special formatting described above can be imported as part of Electionware's powerful import feature.

**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)?**

ES&S has worked with various Voter Registration (VR) programs to convert VR data elements into our Election Management System (EMS). As the current voting system vendor for the County and the national DIMS vendor, ES&S has vast experience importing data from the County's voter registration system into the County's election system.

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

Yes. Electionware provides a spreadsheet report showing all translations. This provides many options for translations. They can be validated within a single report if they have already been imported or manually proofing entered. You can also export a blank report of all English text to send the data to a translation service. The translator can enter the Spanish data in the Excel spreadsheet report, and then the Electionware user can simply import this text. This flexibility allows the County to either enter the Spanish text or have a translator do this work from Excel, which is widely known.

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

Microsoft operating system upgrades are typically provided along with new system features in subsequent and ongoing releases. However, these cannot be used until a new operating system is included in an EAC-certified release.



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

ES&S will offer the County enhancements for security, performance, feature improvements, and hardware sustainability annually or more frequently as necessary.

As new EVS releases are certified and available in the State, ES&S Technical Services are available to perform EMS network upgrades to Cuyahoga County. As new EVS releases are certified, Technical Services can be enlisted to upgrade the County's EMS network. If Cuyahoga County decides to utilize ES&S for upgrade services, an implementation scope will be determined, and a network upgrade quote will be created and presented to the County for approval.

The upgrade process consists of completely reloading the EMS systems and installing and configuring the systems in a certified and hardened configuration. Prior to completing the installation, the entire EMS network is tested from end-to-end to ensure an operational EMS network. An installation checklist and network diagram are completed and delivered to Cuyahoga County at the end of the upgrade process. Additionally, the ES&S technician provides a brief EMS network walkthrough with the customer while on-site.

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

ES&S designs central scanners and precinct equipment to provide less than a 5 percent probability that an unscheduled maintenance action will require more than 30 minutes to complete. Repairs done under our Extended Warranty with Biennial or Annual Maintenance are typically performed onsite. If the repair cannot be done onsite, or if a customer subscribes to the Extended Warranty without biennial or annual maintenance, repairs at the ES&S depot in Omaha are completed within 7-10 days of receipt.

### **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. Electionware media can be tested in this manner. We suggest each scanner be tested prior to an election, but for purposes of testing the results this is a common practice. The Toolbox software provides pre-marked test ballots and a spreadsheet showing the expected results based on the test deck created. This report may be compared with the results uploaded after feeding ballots through the tabulator. There is not a limit on the same scanner being used to upload results from different poll media.



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

The Certified Election Systems & Software (ES&S) Election management System (EMS) environment operates on Windows 7/Server 2008 R2 operating system environment, which is configured in a hardened state through the certified build process. Specifically, hardening scripts lock down the EMS systems to increase security and allow only elections required functionality. Configuration settings are based on security best practices and recommendations from Federal and Industry Standards that provide specific and actionable ways to prevent malicious activity and improve the collective security of EMS systems. When an ES&S EMS system or network is hardened, the cybersecurity posture of the network is improved which lowers the risk to outside threats.

Hardening of the EMS helps conform to Federal and Industry Standards. This is accomplished by configuring and locking down multiple areas of the voting systems. Access and functionality is restricted to only that required to operate the voting systems. Examples of system hardening activities include:

- \* Modifying the Windows registry
- \* Configure Account Policies
- \* Configure Local Policies
- \* Configure Software restriction policies
- \* Removes non-essential Windows components
- \* Sets permissions on application folders
- \* Configures group-based security permissions
- \* Creates standard configuration of Windows network

The standard certified EMS network configurations consist of a standalone workstation or a client/server architecture. Both architectures are air-gapped, meaning they are on a closed network and there is no outside network connectivity to the EMS systems.

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

ES&S will work with Cuyahoga County to determine the best methods for backing up data, as well as tailoring a disaster recovery plan per industry best practices and County guidelines.

#### **SERVER**

Creating a backup of the election can be completed at any time in Electionware. Backup servers can be configured to enable failover capabilities in the event that the primary EMS server becomes inoperable. An Electionware backup restores items required to fully restore an election including election programming, ballot



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design, tabulation equipment and media configuration, election results, and reporting data.

The Electionware EMS server is configured with RAID storage for redundancy and high availability of the system in the event of a drive failure. The server is also powered by redundant power supplies to have uninterrupted operation even during power supply unit failure.

### WORKSTATION

Electionware based data backups can be created for each election and then restored at any time throughout the election process. Additionally, the EMS client/server network environment is designed to include multiple client workstations to establish a built-in client redundancy in the event that one of the workstation goes offline. In the event that an EMS client workstation becomes inoperable, Electionware functions can be resumed on another EMS client workstation that is connected to the EMS.

In a standalone EMS workstation environment, a backup EMS workstation can be built to allow for immediate failover if the need arises. An Electionware backup file can be restored to the standalone workstation’s Electionware instance to resume election operations.

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

ES&S utilizes the Delkin USB 2.0 memory devices for the proposed solution. The DS200 and ExpressVote come with the 4GB USB memory devices and the DS850 comes with the 8GB USB memory devices.

The number of ballot images that can be saved to a USB memory device can vary greatly depending on the density of the ballot and ballot length. In real-life testing, ES&S achieved the averaged results below using two-sided ballot sheets.

Ballot Length DS200	Average ballot capacity for supported USB memory drive sizes	
	4GB	8GB
11-INCH	12,000	24,000
14-INCH	9,600	19,200
17-INCH	8,000	16,000
19-INCH	6,400	12,800

Based on the size of the County and the associated quantity of ballots and ballot images, ES&S recommends the County employ a networked solution for central scanners.



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For customers who are unable to network central scanners, ES&S is currently exploring and testing the options for 256GB USB memory devices.

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

Reporting groups are used to categorize different groups of ballot styles (e.g., Federal, Absentee, Overseas, etc.) for statistical reporting purposes. They are ordinarily created in the Capture module while the election is being defined. However, if you need to assign poll media to a new reporting group, you can still add or edit a reporting group from the Reporting module.

We also have the ability to upload multiple reporting groups on a single poll as an option. This functionality could be used on the central count so that Absentee, Early Vote and additional reporting groups can be scanned in one poll.

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

Yes, the proposed voting system complies with this requirement. Electionware produces reports in ASCII, CSV, XML, HTML, PDF, RTF, and XLSX (Excel). Excel files can be imported into Access.

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

ES&S high-speed scanners can transfer results via a closed network or using a USB memory device. In the event of an outage of either phone or cellular networks, the USB memory device containing the results can be manually processed into the reporting system to generate election night results.

The DS850 central scanner tabulators also can be networked together on a LAN with the vote tabulator server for the collection and reporting of results.

### **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?**

#### REPORTS

Electionware Results Reports include, but are not limited to:  
Reporting

- Election Summary
- Precinct Summary
- Precinct/Split Summary
- Precinct Canvas Custom Table Report
- Precinct/Split Canvas Custom Table Report
- Poll Canvas Custom Table Report
- Ballot Style Canvas Custom Table Report





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- Poll Canvas Custom Table Report
- Plain Text/ASCII Results Export File
- CSV Results Export File
- Enhanced XML Results Export File
- Standard XML Results Export File
- Custom (XSL) Results Export File
- Precinct Status Report
- Write-in Names Report
- Manual Entry Log Report
- Machine Logs
- Media Loaded Status Report
- DS450 Networked Results Status Report
- Double Vote Report

### FORMATS

The Electionware Reporting module offers many different formats for election night exports, including XML, CSV, and TXT. Plus, it provides Cuyahoga County with the ability to customize election night exports based on your needs. These exports can be created on an as-needed basis or set to be updated on a specified timed interval.

### **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)?**

Electionware's Reporting Module is designed to display election totals on demand as results are received from polling locations. There are many helpful reports to display the current status of precincts, polls and media on election night:

- The Precinct Status Report displays the total number of precincts, the total number of precincts reporting and whether they are completely or partially reported.
- The Media Loaded Status Report displays each poll place name, equipment type, equipment serial number, data version, media serial number, media load time, and total ballot sheets cast for that poll. This report also provides a Total Poll Places Not Loaded as well as counts for Total Poll Places Loaded.
- Also, the DS850 Networked Results Status Report results transmitted via the SFTP server on the network into Electionware's Reporting Module.



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**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?**

The DS200 scanner provides totals for each type or page. The Electionware Reporting module provides totals based on the first page cast in a multi-page ballot for each precinct.

ES&S is working to determine when this functionality can be added to a future

No. of Images	File Size	Total Data	Bus Speed	Time(in minutes)
1 million	300,000	300,000,000,000	20,000,000	USB 250
1 million	300,000	300,000,000,000	1,000,000,000	Gig Ethernet 5

release and what future release will include this functionality.

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

ES&S uses the industry’s most compact image size to reduce the amount backup/clear/restore time. File size will vary based on ballot size and complexity. The 19-inch ballots create the largest images. Using a 19-inch ballot with average density creates an image size of about 300 kilobytes. Depending on the speed of the backup/clear/restore, the process will require.

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

Yes. The proposed solution will enable the County to tabulate new ballots and bring in Absentee results that have already been tabulated.

**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?**

Electionware toolbox makes test decks based on selected precincts. If a location or city-based test deck is desired, simply choose the precincts that comprise that location and toolbox will generate the test ballots and expected results.

Electionware’s Toolbox application makes Logic & Accuracy testing simple. It can create marked test decks, ensuring accuracy and removing human error from the equation as well as generate a spreadsheet showing the expected results after running the test deck it creates. A voting pattern from 1 to x can be selected, and over votes, undervotes, and write-ins can also be pre-marked. The user can generate a selection of marked ballot styles, or the entire election. The information needed to create the test deck comes directly from the Electionware election definition.



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

Approximately 40 days will be required for Project Management during and after implementation, which amounts to 20 days per election in a double-election year. Approximately two (2) hardware training days and five (5) software training days will be required for Training.

Election Systems & Software, LLC, understands that a successful transition to new election technology depends on more than executing a logistics plan. A key element to success is ensuring you are empowered with the knowledge to administer the new system and carry out a trouble-free election. To make this transition successful, we emphasize on-site, hands-on training as a critical component of our overall implementation plan. Our training goal is to ensure a strong level of comfort and competency for your election staff and workers. ES&S is committed to maintaining our flexible approach in tailoring the right mix of products, training, support, and service to your jurisdiction.

While our goal with this initial on-site training is to ensure your autonomy in election operations, we understand your long-term needs may require a combination of continuing education courses and/or on-site support. Continuing education and site support needs fulfilled by our experienced training team can be coordinated and tailored to meet your unique Election Commission requirements. Any continuing education courses will be subject to negotiated fees.

### **26. What is the recommended procedure for ExpressVote L&A Testing? Is there something currently being worked on? If so, what is the estimated time frame?**

The ExpressVote can be used to print vote summary cards of each style, which are used to run logic and accuracy tests on ES&S tabulators.

Furthermore, the ExpressVote can generate multiple marked test cards using the Voted Ballot Test feature. The Toolbox utility can be used to generate automated L&A for tabulation mode on the ExpressVote, which can be used for supplemental L&A testing. A standard automated test deck can be generated to be used as a guide (and expected results) for manual L&A testing.

Finally, prior to each election, the battery should be checked, and time/date settings confirmed. The System Readiness Report can be used to verify machine and election specifics. The election qualification code from USB media should be loaded on each ExpressVote to clear the unit and prepare it to accept the election definition. All ballot styles should be voted and subsequently tabulated. Results can then be compared to expected results before clearing results and deploying the ExpressVote units.



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An automated test deck generation feature for the ExpressVote BMD has been developed as part of EVS 6.1.0.0. This release is in final internal testing and is scheduled to begin EAC certification in the second quarter of 2019 and complete EAC certification in October 2019.

### **27. Is there a way to adjudicate ballots without tabulating results?**

Yes. The DS850 uses real-time physical ballot adjudication. The DS850 allows ballots to be effectively sorted by user-specified criteria such as marginal marks, overvotes, undervotes, blank ballots and write-ins.

The DS850 offers the choice to identify these criteria before or after tabulation. Ballots must be scanned to be adjudicated. If sorted ballots are not tabulated, the user may review a batch of ballots before they are tabulated.

When results are uploaded into Electionware from USB memory drives they are aggregated and tabulated

### **28. What additional EVS updates are being developed? What is the timeline and what are the features?**

ES&S is currently federally certifying EVS 6.0.4.0 with an expected completion date in May 2019. EVS 6.0.4.0 adds security updates for Electionware and the DS200 Precinct tabulator. The next planned release is EVS 6.1.0.0, which has as its primary deliverable an on-screen layout manager for the ExpressVote to allow up to four (4) columns of contests and candidates per screen. It is planned to be EAC certified in October of 2019.

ES&S typically releases several small releases and a large release each year, as well as state-specific releases for those states that do have their own certification process outside that of the EAC's program.