

## **Volume 1: Technical Proposal**

### **Cover Page**

CFDA Number: 12.219

BAA Number: H98210-13-BAA-0001

Title: The Rhode Island Military Ballot Acceleration Project

Applicant: Executive Office State of Rhode Island, State Archives

Technical Contact: Mr. Paul F. Caranci, Deputy Secretary of State

148 West River Street

Providence, RI 02904

Phone: (401) 222-2340

Fax: (401) 222-1444

[pcaranci@sos.ri.gov](mailto:pcaranci@sos.ri.gov)

Administrative: John Fleming, Chief of Staff

82 Smith Street

State House, Room 217

Providence, RI 02903

Phone: (401) 222-2357

Fax: (401) 222-1356

[jfleming@sos.ri.gov](mailto:jfleming@sos.ri.gov)

Proposed Term: 12/01/13 to 11/30/14

## Table of Contents

### **Volume 1**

Technical Approach and Justification	Pages 3-10
Executive Summary	Page 3
Goals and Objectives	Pages 4 -7
Schedule and Milestones	Pages 7-8
Management Approach	Pages 8-10
Current and Pending Project Proposal Submissions	Page 10

### **Volume 2**

Budget Proposal	Page 11-12
-----------------	------------

## Technical Approach and Justification

### Executive Summary

In 2009 the US Congress passed the Military and Overseas Voter Empowerment Act (MOVE act). One of the requirements in the MOVE act was Electronic Ballot Delivery. This was done so that the ballot transmittal period is reduced by allowing a voter to receive their ballot online. The Rhode Island Office of the Secretary of State (Office) modified its mail ballot module in its state central voter registration system (CVRS). This modification allowed the CVRS to separate and clearly identify UOCAVA mail ballot applicants from regular mail ballot applicants to better assist UOCAVA voters in receiving their ballot online. The Office also modified the VIC (Voter Information Center) on its website to better assist UOCAVA voters in (1) tracking the status of their mail ballot application and voted ballot, and (2) receiving their ballot online.

With respect to tracking ballot status, the Secretary of State's VIC allowed every mail ballot applicant to follow the travel of their ballot, i.e. date their mail ballot application was received by local board; date local board certified application to SOS; date SOS mailed ballot; and date Board of Elections received voted ballot. Accordingly, UOCAVA voters are able to track the travel of their ballot

Through the VIC, we give UOCAVA voters the ability to print the PDF of their official mail ballot. In addition, we posted PDFs of the required oath envelop and return mailing address label as well as any and all other pertinent voting instructions and cover sheets that allow UOCAVA voters the ability to vote their ballot and mail it back to the State Board of Elections. Additionally, if the UOCAVA applicant faxed his/her mail ballot application/FPCA, he/she was given the option to download the informational files and forms necessary for the applicant to fax his/her voted ballot to Rhode Island. Our UOCAVA VIC system provided for an immediate receipt of the voter's official ballot.

As Rhode Island already has a ballot delivery system for UOCAVA voters in place, we are looking to research better and more effective ways to allow for a voter to ***mark their ballot online***. Due to security that is placed on our servers some UOCAVA voters were unable to access our online tool.

The Central Voter Registration System (CVRS) resides in a complex network which is protected by firewalls for security purposes. The Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) states that the Office of the Secretary of State must grant CVRS access to overseas voters [for ballot access], which opens our network to malicious activity and attacks. Our defense is and has been to block entire ranges of Internet Protocol Addresses (IP Addresses). With the advent of new technology and sophisticated security threats, our current security screening process cannot differentiate between legitimate and malicious incoming data packets. Thus, some overseas voters do not have access until they contact the Office of the Secretary of State and are verified as legitimate voters. This course of action can be difficult for some voters as they may have constantly changing IP Addresses due to their location and Internet Service Provider (ISP).

## **Goals and Objectives**

The Rhode Island Military Ballot Acceleration Project (RIMBAP) is a project of the Rhode Island Office of Secretary of State intended to facilitate ballot completion for UOCAVA voters. RIMBAP has two main objectives: develop an online ballot marking tool to supplement the current ballot downloading program and upgrade security of UOCAVA ballot access tool to ensure accessibility on all systems, for all voters. With the implementation of RIMBAP, all Rhode Island UOCAVA voters will have access to a markable ballot online, provided in a printable, easy-to-return format with attestation sheets and addresses for return.

## *Current Environment*

Rhode Island has aggressively pursued modernizations to its elections conduct systems. In 1997, Rhode Island replaced its mechanical lever voting machines with paper-based optical scan technology. Then, in 2004, the state took advantage of the resources of the Help America Vote Act and implemented a statewide Central Voter Registry System (CVRS). The system allows for registration information and retrieval, mail ballot applications, and candidate processing. The CVRS was built on an extensible platform, allowing the Office of Secretary of State to develop the Voter Information Center (VIC) in 2005. The VIC allowed voters to find elected officials, polling locations and sample ballots based on registration information. The VIC was updated in 2010 to allow UOCAVA voters to retrieve a ballot for voting electronically. The development of the online ballot retrieval system in the VIC was the office's program to come into compliance with the MOVE Act. Since the system could not be guaranteed to work within the requirements of MOVE Act when it was implemented in 2010, Rhode Island requested and was granted a waiver to the MOVE Act. Upon implementation in 2010 and again during the 2012 election, Rhode Island was in full compliance with the MOVE Act.

Currently, an eligible Rhode Island UOCAVA voter can apply for access to a ballot use using the Federal Post Card Application (FPCA) form. Upon receipt of that form, the local board of canvassers in the city or town of that voter's registration denotes the application as UOCAVA. This creates a separate sequence of ballot events than for traditional absentee voters, all of which are trackable on the Office's VIC website. A UOCAVA voter then has the ability to request a ballot electronically or they will receive the ballot by mail. Voters can also elect to receive a ballot by fax. The ability to access the ballot electronically was implemented as part of changes to the Central Voter Registry System in 2010. If a voter chooses to receive the ballot electronically, within 45 days prior to a primary, and 45 days prior to the general election, the voter may login to the VIC and download a blank ballot to fill in. Along with the ballot, the voter can print the required attestation sheets, which are then returned by mail.

This process resulted in a demonstrable increase of UOCAVA applicants who returned their ballot. In 2008, 64% of UOCAVA ballot applications resulted in returned ballots. The 2008 election represented a high turnout year in which 67% of registered voters voted and 91% of mail ballots were returned. In 2010, a non-presidential election year in which only 48% of registered voters voted, UOCAVA voters returned 68% of ballots requested. This 4-point increase in UOCAVA ballot return rate was maintained in the 2012 elections with 68% of requested ballots returned. The office attributes the 4-point increase to the online ballot retrieval system implemented in 2010.

There have been two common complaints since the online ballot retrieval system was implemented. The first was a desire to obtain ballots earlier. While Rhode Island is in compliance with MOVE Act timeframes for ballot availability, a late primary for state and local offices (second Tuesday after the first Monday in September, by state statute) creates a very tight schedule for ballot delivery. Since the online ballot delivery system was implemented, this complaint has been less common.

The other complaint has been around an inability to access the ballot information online because the office's technology security system has blocked access. The Central Voter Registration System (CVRS) resides in a complex network, which is protected by firewalls for security purposes. UOCAVA states that the Office of the Secretary of State must grant CVRS access to overseas voters [for ballot access], which opens our network to malicious activity and attacks. Our defense is and has been to block entire ranges of Internet Protocol Addresses (IP Addresses). With the advent of new technology and sophisticated security threats, our current security screening process cannot differentiate between legitimate and malicious incoming data packets. Thus, some overseas voters do not have access until they contact the Office of the Secretary of State and are verified as legitimate voters. This course of action can be difficult for some voters as they may have constantly changing IP Addresses due to their location and Internet Service Provider (ISP).

### ***The Rhode Island Military Ballot Acceleration Project (RIMBAP)***

Building upon the previous successes of providing access to voting material, the Office of Secretary of State intends to begin a 2-part initiative to increase the UOCAVA ballot return rate. The first is the creation of the online ballot marking tool. The second is the implementation of next-generation information security hardware and software to ensure that any UOCAVA voter will have access to the online ballot system and that the state's information resources are completely protected. The objective of the RIMBAP is to increase the UOCAVA ballot return rate to 75% by 2016. RIMBAP is structured to be a research and demonstration project, providing a stable base of UOCAVA voters on which to test the efficacy of online ballot marking and election conduct information security systems.

#### *Electronic Online Ballot Marking System*

RIMBAP intends to further enhance the VIC for its UOCAVA voters by allowing them to mark their ballot electronically and submit the ballot via mail or fax. RIMBAP has identified specifications for its electronic marking system, including:

- Voters must not be required to manually install any specific election software or hardware on their personal computer to access the voting process (with the exception of Adobe Acrobat).
- The System must allow invalidating voters before and during the voting process (e.g. the voter's authentication mechanism has been compromised). If the invalidation is done on a voter who already cast a ballot, it must be tagged as invalid and rejected from any further processing if received.

- Races must appear one at a time. Voters must not have to scroll to read a race unless the Office of Secretary of State approves the formatting with scrolling.
- The System must ensure the ballot order as defined by Rhode Island General Laws and the Office of Secretary of State.
- The System must enable configuration of write-ins, where applicable, according to Rhode Island General Laws.
- Voting options must support the use of multiple languages. Specifically the System must support presentation, marking, and printing of the ballot in English and Spanish.
- The System must clearly distinguish between selected voting options from non-selected ones.
- The System must allow voters to download blank ballots.
- The System must allow voters to verify their ballot selections before downloading and printing their ballot.
- The System must prevent over-voting (the marking of more candidates than allowed for election in a race)
- The System must allow a voter to print the ballot without marking the ballot in every race.
- The System must provide the voter with the option of modifying their selections by navigating directly to the appropriate race from the review screen. After the voter has reviewed the race, regardless whether a revision was made, the System must permit the voter to return to the review screen without requiring the voter to re-navigate through other races

The Office of Secretary of State intends to utilize the state of Rhode Island Master Purchase Agreements for technology vendors to implement the ballot marking system. ***The system will not be configured to allow voters to submit their ballots electronically, and no funding obtained through this application will be utilized for that purpose.***

#### *Voter Information Center UOCAVA Security Upgrades*

RIMBAP intends to allow all legitimate attempts to access the information resources for the conduct of elections, while continuing to protect the information resources of the state of Rhode Island from malicious attack. Specifically, the VIC system, upon which the ballot retrieval system is built and the ballot marking system will be built, required direct connectivity with the Central Voter Registry System (CVRS). In order to ensure seamless connectivity to the CVRS environment for overseas voters, it will be essential to enhance the network security with “leading edge” technology which can search incoming data packets to seek out and thwart off malicious threats while allowing valid traffic to pass through. This technology requires certain hardware devices to be positioned in the network at precise locations that will execute advanced algorithms allowing only valid or legitimate traffic to communicate with the CVRS environment. The position and installation of these devices also requires development prerequisites such as enhanced network analysis and modification of design. The implemented environment will maintain the current techniques for information protection for voters and users of the system. The office of Secretary of State will procure the required hardware and software through the standard State of Rhode Island procurement process.

*Data and Research*

The CVRS system in Rhode Island is able to produce a myriad of reports based on different inputs. Data can be tracked over time to show trends, control of outlier results and provide significant information for the analysis of the RIMBAP project. All data fields included in the data report template can be produced by the CVRS.

**Schedule and Milestones**

**Rhode Island Military Ballot Acceleration Project Schedule**

	12/13 – 2/14	3/14 – 5/14	6/14 – 8/14	9/14 – 11/14
<b>Project Administration</b>				
<b>Ballot Marking Development</b>				
<b>Ballot Marking Testing</b>				
<b>Ballot Marking Implementation</b>				
<b>Security System Project Scope</b>				
<b>Security System Procurement</b>				
<b>Security System Installation</b>				
<b>Data Collection</b>				

RIMBAP intends to begin both activities of the project at the start of the performance period. The development of the ballot marking system would begin immediately with the first version for testing to be released by May 1, 2014. A 60-day testing phase would result in the public launch on July 15, 2014. This would make the ballot marking tool available for the primary election, held September 9, 2014. The project would reserve further development resources to account for any problems encountered during the primary.

The Security System project would also begin immediately with the first step being the creation of a scope for procurement of the necessary hardware and software. The office would seek to issue a procurement by January 15, 2014, with the intent of completing the procurement by April

1, 2014. Installation of the system will be completed by July 15, 2014, in coordination with the public launch of the ballot marking system.

## **Management Approach**

### ***Collaborative Activities***

The Office of Secretary of State represents one of three major entities in the conduct of elections in Rhode Island. Along with the State Board of Elections and the 39 local Board of Canvassers in the state, the office plays a critical role in ensuring ballot accuracy and access to voting for Rhode Islanders. The optical scan voting system is a joint project with the Board of Elections. The CVRS system required significant input from and training of local boards of canvassers. For this proposed project, RIMBAP would be a project of the office of Secretary of State with information guidance to the state Board and local boards of canvassers to assist voters with questions.

### ***Goals to develop the research product and/or tools that meet FVAP's research objectives to assist military and overseas voters***

When the US Congress passed the Military and Overseas Voting Empowerment Act one of the requirements was to develop an on line ballot marking tool for UOCAVA voters. One of the main goals when developing the online ballot retrieval tool was to make it use friendly and easy for the UOCAVA voters to use. All that the voter needs to do is input their personal information name and date of birth, to download their ballot and all voting materials. One of the goals of the research is to find a more secure way to allow voters from overseas to access the office's secure servers. The servers are secure to deter any attack from outside the country. When a UOCAVA voter was unable to access the website in the past, they were sent an electronic ballot through email.

### ***Methodology of the proposal to show what will be executed and demonstrate how the research product or tool will be developed***

The Office of Secretary of State will contract with a developer to add functionality to the state's Voter Information Center online tool that will allow UOCAVA voters to mark their ballot electronically and print it for return to state election authorities. This functionality will be built into the existing system that allows a voter to obtain information about their voter registration and allows them to access a copy of their ballot. Additionally, the office will purchase hardware and software that meets security specifications to allow UOCAVA voters to access the Voter Information Center resources.

### ***Financial management, identification of milestones and measures of success***

The state of Rhode Island maintains a significant system for accounting and controls for all state expenditures, including grant funds. The office complies with these systems, including cost effective bid processing for purchases.

The major milestones for success in this project are the testing launch of the ballot marking tool on May 1, 2014 and the public launch of the tool on July 15, 2014. The milestones for the security system include the issuance of a procurement by January 15, 2014, the purchase of hardware and software by April 1, 2014 and the installation of the system by July 15, 2014.

Two major measure of success are 1) Zero UOCAVA voters being denied access the to system and 2) an increase of UOCAVA ballots being returned to 75% by 2016.

***Define and formalize strategic goals***

RIMBAP's two goals are 1) Zero UOCAVA voters being denied access the to system and 2) an increase of UOCAVA ballots being returned to 75% by 2016.

***Analyze and measure current processes***

In 2010, the office instituted the online ballot delivery system required by the MOVE Act. The office analyzed how it could make the system the most user friendly. Therefore, the office incorporated the online tool as part of the existing online Voter Information Center tool (VIC). This is a place where a voter can put in their name, date of birth and city or town where they are registered and find their voter information, their status, elected official, party and if they applied for an absentee ballot the status of their application and ballot. With the implementation of the UOCAVA online tool to the VIC in 2010 anyone who applies and qualifies as a UOCAVA voter has the ability to view and download his or her ballot and balloting material. However, an unknown number of UOCAVA voters were unable to access balloting information on the VIC due to information security protocols. Some were able to contact the office and receive materials in an alternate manner. However, it is unclear how many were unable to access materials at all.

***Identify each process and elements related to process***

The Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) states that the Office of the Secretary of State must grant CVRS access to overseas voters [for ballot access], which opens the network to malicious activity and attacks. The office's defense is and has been to block entire ranges of Internet Protocol Addresses (IP Addresses). With the advent of new technology and sophisticated security threats, the current security screening process cannot differentiate between legitimate and malicious incoming data packets. Thus, some overseas voters do not have access until they contact the Office of the Secretary of State and are verified as legitimate voters. This course of action can be difficult for some voters as they may have constantly changing IP Addresses due to their location and Internet Service Provider (ISP).

***Identify risks and mitigate strategies***

The greatest risk in the RIMBAP is timeline. If the procurement timeline is delayed the project risks not meeting projected milestones. The office will mitigate this risk by providing highly-detailed and complete procurement documents and by working with the state's division of purchases in order to expedite the procurement.

***Formalize performance indicators for each process***

The only process here would be to increase our security on the office's servers. With the advent of new technology and sophisticated security threats, the current security screening process cannot differentiate between legitimate and malicious incoming data packets. Thus, some overseas voters do not have access until they contact the Office of the Secretary of State and are verified as legitimate voters. This course of action can be difficult for some voters as they may have constantly changing IP Addresses due to their location and Internet Service Provider (ISP).

***Justify modification of existing processes***

The security upgrade to the servers will allow 100% of UOCAVA voters access to the online tool.

***Project effectiveness of modifications***

The security upgrade to the servers will allow 100% of UOCAVA voters access to the online tool.

***Define measurements of performance***

Two major measure of performance are 1) Zero UOCAVA voters being denied access the to system and 2) an increase of UOCAVA ballots being returned to 75% by 2016.

**Current and Pending Project Proposal Submissions**

None

**Direct Labor**

\$3,623

The office of Secretary of State will dedicate 80 hours of staff time to complete the project. This include 10 hours of the Deputy Director of Elections to interface with developers to create the online ballot marking tool and 70 hours of the Director of Information Technology to manage the security system upgrade project.

**Administrative and Clerical**

\$0

**Fringe Benefits and Indirect Costs**

Fringe - \$1,271

Indirect - \$2,389

The fringe rate for the state of Rhode Island is 35%, totaling \$1,271. The indirect rate for the state is 5%, totaling \$2,389.

**Consultants**

\$17,280

\$108/hour x 20 hours/week x 8 weeks

The state will utilize information technology consultants for development of the online ballot marking tool and installation of the security system upgrade. The State of Rhode Island has a master purchase agreement with a number of information technology vendors to provide system analysts and developers at a fixed rate for the state. The office will take advantage of that cost-effective mechanism for the project.

**Materials and Supplies**

\$25,600

Costs will cover the purchase of a rack-mountable security appliance to address anti-malware protection, anti-spyware protection, antivirus analysis, content filtering, URL filtering and web threat protection. This amount will also purchase the management software to control the security appliance.

**Other Direct Costs**

\$0

**Link to Consolidated Annual Financial Report**

<http://controller.admin.ri.gov/Financial%20Reports/index.php>

### **Return on Investment Analysis**

The office considers the return on investment high for the project. The investment of \$50,163 will, for the State of Rhode Island, result in both savings in terms of man-hours expended to create workarounds in the Voter Information Center technical security architecture and reduce staff response needs to UOCAVA voters. The project will also result in an easier voting process for UOCAVA voters and an expected increase in the percentage of UOCAVA ballots returned.

RIMBAP seeks to address the needs of the roughly 2000 UOCAVA voters in the state. The project represents a one-time investment of approximately \$25 per voter to ensure electronic access to voter information and increase the ballot return rate by 7-10%. Also, since RIMBAP is a single project with lasting impact, each election will result in returns on the initial investment.