

Commonwealth of Pennsylvania Online Voter Registration(OVR) Web API

Category: Digital Government: Government to Citizens

State: Commonwealth of Pennsylvania

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Executive Summary

Since August 2015, over 1 million Pennsylvania citizens have registered to vote through the Department of State (DOS) Online Voter Registration (OVR) service. The process to register online is quite simple and relies on certifying an individual's identity through several sources. Championed by Governor Tom Wolf, the goals of electronic voter registration are to significantly reduce the overhead in voter registration and record maintenance versus paper methods, increase the number of registered voters and improve the quality of the voter record data.

Building upon the initial success of OVR, the department has extended the capabilities of the online service to promote the electronic integration of voter registration within third party voter registration organizations and several state agencies offering driver's license or public assistance services. This approach provides a seamless user experience between applying for public assistance/services and registering to vote. It has also improved the accuracy of information submitted, increased the voter applications-to-registrations ratio and reduced costs associated with paper forms and the manual processing of those forms from both agencies and voter registration drives.

Following the models of industry giants such as PayPal and Amazon, the department developed a secure internet facing service that can be used by custom/integrated voter registration applications (VRApp) developed by approved posting entities (organizations that conduct voter registration drives) and agencies.

At the business level, the solution had to align with current voter registration policies and processes. The department also had to work with other agencies and posting entities to merge business practices whenever possible. Working with both agency management and business areas, as well as other posting entity management, the department has been successful in identifying and gaining agreement on common business processes and branching points for the voter registration initiative. Department staff have also worked closely with County Election Offices to promote and design an efficient method to identify, track and process voter applications using the PA OVR Web API.

The Pennsylvania Online Voter Registration Web Application Interface or PA OVR Web API has been an unwavering success. Nearly 80,000 applications have been submitted through the service since September 2016. The approval rate of applications submitted through the API is over 20% higher compared to other methods and missing contact information is all but eliminated. The department looks forward to continuing to collaborate with posting entities to integrate the API into their VRApps in order to further increase the benefits of the service to county election offices and to citizens who register to vote.

Additional information about OVR and the PA OVR Web API initiative is available at:

<http://www.dos.pa.gov/paovrwebapi>.

Concept

The PA OVR Web API project leverages the Department of State's Online Voter Registration (OVR) processes, technology and focus. The [OVR website](#) allows eligible Pennsylvania citizens to apply to register to vote and/or maintain their voter records electronically. The success of OVR in accepting over 1 million voter registration applications since 2015 has been a milestone and an invaluable tool for both the citizens and the Commonwealth.

OVR validates the identity of the applicant through several means (PennDOT DL, signature and/or last four digits of SSN) and then transfers this information to the Statewide Uniform Registry of Electors (SURE) for assignment to the appropriate county for further processing and registration approval/denial. The PA OVR Web API uses the same information and process requirements as OVR and its corresponding paper process. However, instead of using a standalone application, the API leverages information already given by the applicant at the time he/she applies for services such as through Pennsylvania's Department of Human Services, Department of Health, and Labor & Industry.

The architecture for the PA OVR Web API was selected from current technology stacks and the ability to sustain in-house support. The PA OVR Web API uses HTTP methods. Requests to the PA OVR Web API are formatted as a JSON message passing XML within the body of the message and the API's responses are returned, likewise, in JSON-formatted responses with XML body tags. Through a sequence of both GET and POST calls to the PA OVR Web API, the agency/organization can receive dropdown selections (i.e. race, gender), error translations and submit voter registration applications. For flexibility, the model supports both interactive and batch application submissions.

Special features include the ability to upload a signature with an application even if the identity requirements are not validated in real-time (these cases then are placed in a "Missing Signature" process within the SURE system), allowing for address options (residential, mailing versus none), special assistance and poll worker volunteers. The signature upload feature was implemented as part of OVR in March 2016. These features are intentional to support the goals and objectives of the Help America Vote Act (HAVA).

Currently, the PA OVR Web API supports both English and Spanish submissions and responses, using US-ASCII (English) characters only. The PA OVR Web API employs both an authorization key and calls using HTTPS and SSL protocols for security. All code is tested against commonwealth application certification and accreditation (CA2) standards for compliance and standardization. Authorization keys are centrally managed at the department and can be used to limit access and features/functions of the agency/organization. The authorization key structure also supports a multi-level organization/affiliate structures where, especially within NVRA agencies, multiple program areas within an agency offering different services can be managed and tracked individually, as well as agency-wide.

The reporting structure to track application submissions, as well as their effectiveness, has been an extension of the current reporting structure for voter registration by paper and OVR.

The project lifecycle started in the summer of 2016 and resulted in the deployment of the first third party organization in September 2016 and the first NVRA Agency in December of 2017. The initial deployments during the fall of 2016 yielded basic functionality and allowed an initial pilot to register voters for the 2016 election. Following the election, the enhancements to the PA OVR Web API were focused on integration with NVRA agencies (Department of Human Services, Department of Labor and Industry and Department of Health) that had substantial application volumes and IT support staff to develop a PA OVR Web API client solution. Overall efforts within the NVRA initiative (from concept to deployment) are estimated at a total of 21 person-months of effort.

Of the 7 NVRA Agencies

- Applications sourced from PennDOT consume a Department web service
- Applications sourced from DHS, DLI and DOH utilize the PA OVR Web API
- Applications sourced from Agencies without the resources to develop their own application are targeted to utilize the PA OVRDrive web application (an extension of both OVR and PA OVR Web API platforms).

At the outset of the project, stakeholder engagement and ownership were identified as key success factors. County engagement was also critical, as new application sources were being introduced and efficient county processing and reporting are essential in measuring effectiveness. This was accomplished through a series of user review and user acceptance testing (UAT) sessions with counties to gather their input and feedback on development efforts for backend processes changed due to PA OVR Web API submissions.

The agency/organization onboarding begins with the PA OVR Web API registration process, review and agreement with the terms of use and review of the technical specification and data field definitions.

Once the agency/organization contacts the department, agrees to the purpose of the PA OVR Web API and its utilization, a series of discussions take place to involve both the business and technical teams of the department and the corresponding agency/organization.

A high-level mapping session is usually conducted to identify core business flows, appropriate branching to voter registration, review of preference and requirement questions to be presented to the applicant and review the API documentation. During this initial session, agency/organization resources, timelines, constraints and milestones are identified. More in-depth discussions may be warranted in address mapping, explanation of PA OVR Web API modes, identity processing and field precedence processing.

Although the department has built a sample project plan, most plans are tailored to the engagement, pending the outcomes of the initial mapping session.

Communications between the department and the agency/organization run through a central point of contact (POC) designated at the outset of the engagement. Currently, the department handles all communication through its Bureau of Commissions, Elections and Legislature (BCEL).

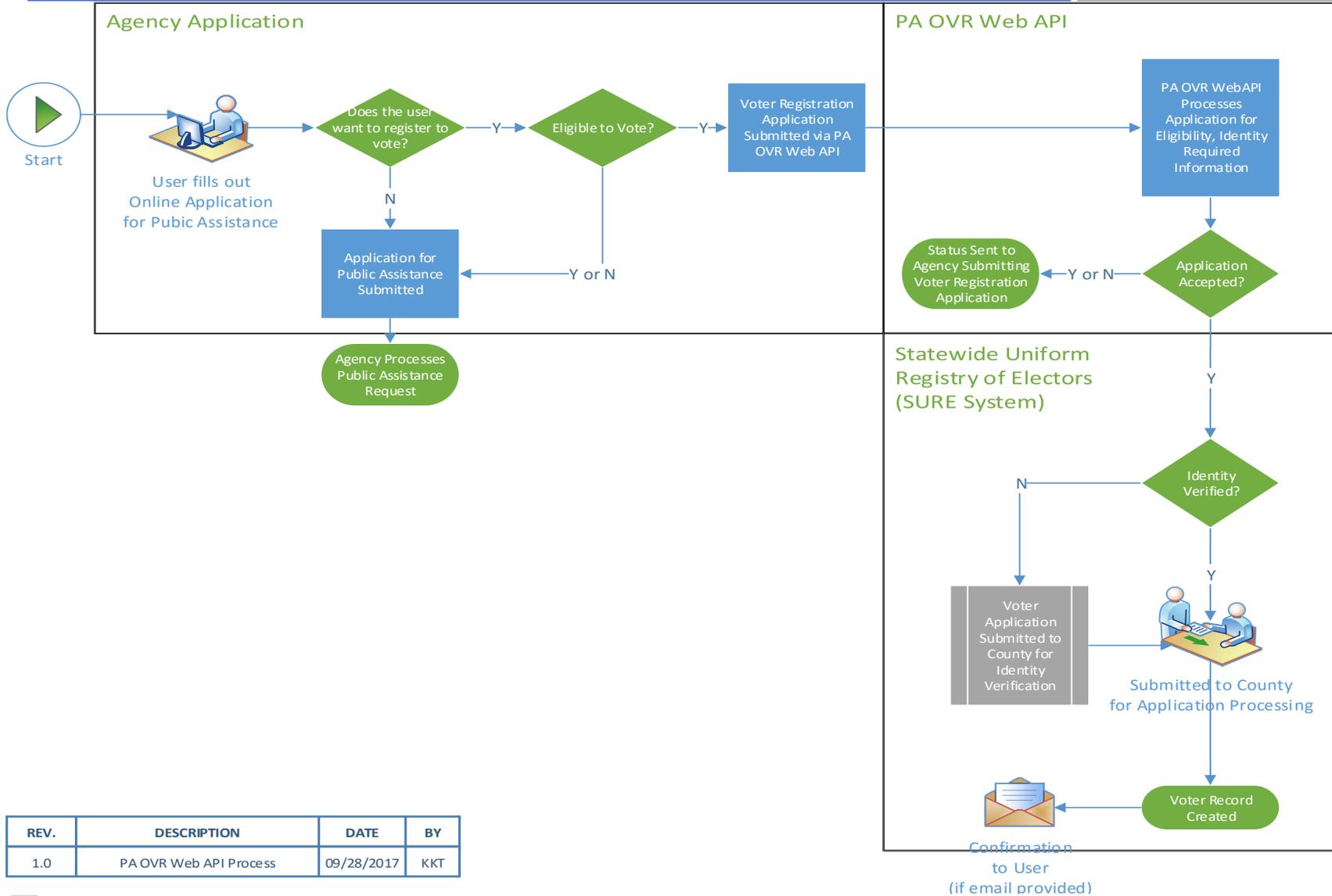
Currently, on-going support is communicated through the BCEL and agency/organization POCs. Issues and troubleshooting usually directly engage technical teams with the business members being informed. Policy and governance updates are communicated first through the business areas with support from the respective technical teams.

Future enhancements for the PA OVR Web API are initiated by the department's BCEL and IT technical team and communicated through the BCEL POC. Adequate impact analysis, testing and synchronized deployments (if necessary) are carefully planned, managed and monitored through the department's Project Management Office (PMO).

The following diagram is a high-level flow depicting the PA OVR Web API process, starting with the agency/organization's application and its integration with the API and backend SURE processes:

PA OnLine Voter Registration Processes

September 28, 2017



REV.	DESCRIPTION	DATE	BY
1.0	PA OVR Web API Process	09/28/2017	KKT

The Department's experience in working with other agencies/organizations has been a valuable experience with opportunities for growth, especially in areas of ownership, driving timetables and communications. Current maintenance collaboration has required very little time and resources. Most of the on-going collaboration and effort has been with expanding the integration functions to include eSignature uploads and address mappings.

Significance

Under the leadership of Governor Tom Wolf, the Pennsylvania Department of State has focused on making it easier and more convenient for citizens to participate in their democracy through voting. The goals of Online Voter Registration and the PA OVR Web API are to increase registration of eligible voters and reduce administrative overhead and burden associated with processing paper forms and applications with incomplete information.

The PA OVR Web API project is comprised of business and technical teams striving to increase the awareness and opportunities of Pennsylvania citizens to register to vote and/or maintain their voter records during voter registration drives and while conducting service-related business functions with other commonwealth agencies.

Because the PA OVR Web API leverages a variety of inter-agency service offerings to Pennsylvania citizens and voter registration drives by third parties, its longevity is not bound by a program or technology. Voter registration is an on-going process, like the social, economic, health, educational and employment services offered by other commonwealth agencies consuming the PA OVR Web API service.

Combining the requirements of the National Voter Registration Act with entities managing voter registration drives, the department developed a strategy to provide an electronic means by which these organizations can capitalize on the information gathered from the citizen and transfer it to an electronic voter registration application (upon approval of the applicant), reducing redundant data entry, increasing information quality and capturing the attention of a potential voter while they are applying for a Commonwealth service (social, economic and/or unemployment).

To allow for the flexibility and accommodate the needs of either a commonwealth agency or voter registration drive organization, the department developed a solution architecture that utilized Agile practices and processes, while focusing on voter registration information rules, requirements and backend processing that dovetails into the existing voter registration application apparatus (OVR and paper) and complies with both Commonwealth election law and federal requirements. The solution required extensive collaboration between the Bureau of Commissions, Elections and Legislation and various technical teams (Department and Enterprise infrastructure, security, application development and operational teams).

Impact

The Department measures the success of the project in the following ways:

- The number of applications submitted via the API versus paper application submissions for the same time period.
 - Since September 4, 2016, 78,419 applications have been submitted via PA OVR Web API
 - Since December 2, 2017 (initial NVRA deployment), 5,774 voter applications have been received via PA OVR Web API

- Since December 2017, the intake of API applications as a percentage of total registrations submissions has been on the rise.

Month	OVR % of total submissions	API % of total submissions	Paper % of total submissions	PennDOT % of total submission
Dec 2017	4.92%	0.70%	16.53%	77.84%
Jan 2018	7.53%	0.74%	13.52%	78.21%
Feb 2018	11.62%	0.68%	18.97%	73.72%
March 2018	13.62%	1.50%	14.92%	69.96%
April 2018	22.09%	1.40%	15.96%	60.55%

- The percentage of applications with verified identities (i.e. PennDOT Driver’s License or uploaded signatures) compared to applications without. Having verified identities reduces turnaround time and county workloads.
 - 82.5% Approval rate with Identity submitted versus typical 59% Approval rate of applications submitted.
 - The number of Missing Signature Correspondences for a given time period compared with the above ratio will help decrease correspondence mailing fees and processing.
- The accuracy and completeness of voter information to reduce time devoted to voter record maintenance by both the voter and the corresponding county.
 - More voter records contained contact information in case there was a question about the application or record (see table below)
 - For application submitted between Aug 2015 – Jan 2018 (note: API launched in Sept. 2016)

Application Data Points	Paper Submission	OVR Submission	Web API Submission (subset of OVR)
Contained no email	93.89%	26.97%	2.13%
Contained no phone	58.23%	37.13%	0.72%
Total Submissions Analyzed	1,058,448	981,286	74,207

- The trend of voter registration applications received through various electronic means (i.e. OVR versus API)
 - For applications submitted between Aug 2015 – Jan 2018 (note: API launched in Sept. 2016)
 - Online transactions accounted for approximately 23% of all applications
 - Since the initial NVRA deployment in December 2017, API transactions accounted for approximately 12.8% of all online application submissions.