

TechSolutions

Web Portal Evolution and System Testing

1 TechSolutions Web Portal Evolution

The TechSolutions Program was established in early 2007 by the Department of Homeland Security's Science and Technology (S&T) Directorate to provide information, resources, and technology solutions that address mission critical gaps identified by the emergency response community. The emergency response community in the United States comprises more than 2.5 million responders and more than 54,000 agencies, with varying needs and requirements depending upon size, geography and discipline. The goal of TechSolutions is to field technologies that meet 80% of the operational requirement, in a 12 to 15 month time frame, at a cost commensurate with the proposal but less than \$1 million per project. Goals will be accomplished through rapid prototyping or the identification of existing technologies that satisfy identified requirements.

Originally data collection was achieved by utilizing a static webpage off of the public DHS domain and directing First Responders to a link to submit capability gaps to the program mailbox. The process was manual and paper based submitting. To meet the goals of the program efficiently, the Responder Technologies Director under the S&T Directorate awarded Booz Allen Hamilton a contract to develop a workflow system to automate the current manual process which will better serve the customer and DHS. The TechSolutions workflow system would be a critical component of information sharing for stakeholders, both the customer and internal users.

Now the TechSolutions system is a web-based application that allows first responders (federal, state, local, and tribal police, firefighters, and Emergency Medical Service) throughout the country to submit capability gaps and monitor its high-level status to the submission closeout. Specifically, the system streamlines the collection of submitter and capability gap information, which is used to address reported capability gaps, leading to improved safety and productivity. As previously stated, First Responders submitted their ideas to the program via email and submissions were tracked via an Excel spreadsheet. In the automated system, users register for an account, submit their idea, and are able to track the progress of their submission by logging into the system and viewing the status of their submission. Likewise, TechSolutions Program Managers receive a notification for action as soon as the a new submission has been entered. Upon initial review and approval by the program managers, the submission proceeds through the automated due diligence review. The system sends users who have been assigned to take an action email notifications and provides SLA's to ensure timely reviews and responses. The automated system has both made for a more timely and efficient process but also reduces the potential for manmade bottlenecks within the process. In addition, the system minimizes the burden on all interested parties who are knowledgeable of first responder capability gaps and have a desire to provide a submission, which is submitted on a voluntarily basis. As a result,

there is no established increment or frequency for collecting information. Any information contained in the system is limited to documenting actions, due diligence evaluations, and all information relevant to the processing of a Product Idea / Technology Gap request. All materials are grouped by individual request and may include, but are not limited to, tracking logs, correspondence, due diligence information, evaluation data, proposals and operational/functional requirements. At a high-level, TechSolutions is comprised of the following modules of functionality:

- Quick Assessment: Initial review of the submission by DHS.
- Sterilization: The initial review of the submission has deemed it a good candidate to move forward. The submission is in the process of being sterilized of any personally identifiable information.
- Market Assessment: A Market Analysis is being conducted to determine if there are any existing technologies available to fill the Capability Gap.
- Relevance Validation: The Capability Gap is under review by first responder subject matter experts and 1401 POC's to determine whether the submission is valid and will be useful to first responders nationwide.
- Existing Technology: The Capability Gap is under review by relevant internal DHS S&T divisions to determine whether any R&D is underway that either meets or can be further developed to fulfill the submission requirements.
- Solution Ideas: A request has been sent to Solution Idea Providers to collect potential solution ideas to fill the Capability Gap.
- User Management: User registration and account maintenance.
- Reporting: Canned reports tracking program metrics, SME response rates, etc.

1.1 Web Site

The main enhancement to data collection via web pages is that the three pages/form used to collect information have been redesigned for a new “look and feel” There have also been additional format changes. Please reference the TechSolutions Narrative of Revisions for complete changes.

Table 1: TechSolutions Data Collection Artifacts.

Form	Current Number (expires 8/31/2010)	Status for Renewal	Artifact
Submit a Capability Gap	DHS Form 10011 (04/07)	active	Web page
Information Request	DHS Form 10012 (04/07)	active	Web page
Register	DHS Form 10015 (04/07)	active	Web page

2 Testing

All changes to the TechSolutions system are fully tested before release to the production website. Testing is performed under a defined System Development Life Cycle for the project, which requires a test plan, test scripts and test summary report for all releases. Testing records include a traceability matrix that maps each requirement to the design specification and the test cases designed to verify it has been built.

The website also undergoes thorough testing for compliance with Section 508 (29 U.S.C. '794d) of the Rehabilitation Act of 1998.