Washington State
Department of Social & Health Services

Transforming lives

TITLE:

Washington State Department of Social and Health Services
Background Check System

CATEGORY:

Business Process Innovations

STATE:

Washington

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August 31, 2018

Executive Summary

The Washington State Department of Social and Health Services (DSHS) Background Check Central Unit conducts approximately 330,000 background checks annually, including nearly 100,000 fingerprint based checks, for more than 80 different business areas, including departmental programs, service providers, and licensees, as well as the Department of Children, Youth and Families. A functioning background check system is critical to the Department's ability to protect the most vulnerable citizens of Washington state. Federal and state law require background checks to determine the character, competence and suitability of individuals who will have unsupervised access to vulnerable children, juveniles and adults. DSHS also conducts background checks on individuals with access to sensitive information in certain federal and state data systems.

Prior to the implementation of the Background Check System, the agency used a system known as the Criminal History System. The Criminal History System enforced many complex business rules, but was hard to learn for staff processing background checks and difficult for technical staff to maintain. Much of the system was dependent on unsupported or near end-of-life technology and it was not compatible with modern operating systems (e.g., MS Windows 7, 64-bit). The complexity of the system made it difficult to add or modify rules to accommodate business changes.

The Background Check System project began with a clear understanding of future state business processes, a good start on design approach, and a clearly defined system architecture. The agency leveraged the experience gained in past project attempts to establish a team of dedicated IT professionals and business staff to design, develop and implement a new system for performing background checks.

DSHS contracted with a vendor for the Background Check System project needs. The project used a hybrid software development methodology, combining best practices from the Project Management Institute, Agile – Scrum, and Lean. Initial planning efforts included a phased approach to completing the project. First, the project conducted an in-depth analysis and design phase to get the big picture of the product, review the requirements, and plan the development sprints. Then the project followed an Agile-Scrum approach to developing and testing the product, with a focused system test, performance and load test, regression test, and user acceptance test prior to training and go-live.

Staff within the Background Check Central Unit, the primary users of the new system, were involved in every aspect of this project, including requirements definition, high-level design, detailed design, testing, and implementation.

The overall project was delivered under budget. Go-live was June 25, 2018. As of today, project stabilization is underway and the Background Check System is the system of record for the department. It has received and processed over 250,000 background checks since go-live. **Approximately 80 percent of background checks submitted by authorized users now return results within minutes**. Using the old system and manual processes, the same types of results (those with no record "hits") took approximately five business days.

Concept, Significance and Impact

Concept

Prior to June 2018, the agency used the Criminal History System to process background check requests for department programs, service providers, licensees and the Department of Early Learning (now the Department of Children, Youth and Families).

The Criminal History System was developed in 1995 and had been modified numerous times to meet both changing legislative mandates and organizational needs. It had also been modified – as much as possible – to automate many manual processes so the processing workload could be handled with minimal staffing resources.

The Criminal History System was comprised of several components that included a centralized repository of background check results; an automated processing system with interfaces to the Washington State Patrol, the Washington State Administrative Office of the Courts and multiple findings data sources (including Child Protective Services, Adult Protective Services and Department of Health); electronic fax intake; automated email result imaging and parsing, and automated no-record result processing.

The Criminal History System enforced many complex business rules that were hard to learn for background check processing staff and difficult to maintain for technical staff. Much of the system was dependent on unsupported or near end-of-life technology and it was not compatible with modern operating systems (e.g., MS Windows 7, 64-bit). The complexity of the system made it difficult to add or modify rules to accommodate business changes. The ability to submit background check requests online was limited to internal program-supported web applications and an application maintained by the Department of Early Learning (just under one-third of all background checks were submitted online). As a result, the Background Check Central Unit required three separate intake processes for online, faxed and mailed requests. All faxed and mailed background check requests (comprising over two-thirds of all background checks) processed by the department required manual processing and data entry. The fax system had server failures on an almost daily basis, requiring frequent IT support. Additionally, nearly 32,000 background check authorization forms were reviewed and manually rejected by background check staff each year due to inadequate information creating extra delays for customers and added work for staff.

Unlike most other states, Washington's Department of Social and Health Services is required to pay the cost of the background checks it conducts, including those conducted for external providers. Department programs spend millions of dollars each year on background checks. Costs vary depending on the type of background check (name and date of birth or fingerprint) and such other factors as Washington State Patrol and Federal Bureau of Investigation processing fees, fingerprint vendor rolling fees and operational charge backs for staffing resources of the Background Check Central Unit.

The department recognized that any new system would also need to incorporate multiple complex business rules to enforce different mandates for numerous business areas, have a method for ensuring the appropriate funding sources would be charged for the costs of background checks, incorporate an efficient workflow to ensure the department could process

background checks within existing staff resources, and incorporate validation to ensure unnecessary background checks costs would not be incurred.

A web-based solution for the submission and receipt of background checks was critical to reduce costs, increase accuracy and streamline/automate processes. A modern, browser-based Background Check System would reduce costs and complexity of system maintenance and staffing requirements for processing while increasing the number of background checks that could be processed automatically. Additionally, the system needed to reduce the turnaround time for completing background checks that required further processing. Prior to implementing the new system, average turnaround times overall (for both record and no record name and date-of-birth checks) were up to 11 business days. The system also needed to be easily supportable in a modern network infrastructure to enable the department to respond to frequently changing federal and state mandates and organizational changes.

Significance

Embarking on the Background Check System project was not the agency's first attempt to replace the Criminal History System. In 2014, the agency had attempted to implement an off-the-shelf system that was supposed to be modified by the vendor to meet the agency's business needs. However, that project was not successful, mainly because of the sheer amount of customization that would have been required to incorporate all of the agency's complex business rules.

Following cancellation of that project, background check program staff reached out to 39 programs in other states to understand their background check processes and to gather information about other systems on the market. The Washington State Office of the Chief Information Officer also independently solicited information from programs in other states and confirmed their findings with Gartner.

Research concluded that there was no other software products already in use that could provide service on the scale required with the business rule and interface complexity of the agency's own existing Criminal History System.

After analyzing the failed off-the-shelf procurement and another previously unsuccessful attempt to replace the system, the agency concluded that the previous attempts had failed mainly due to three reasons:

1. Lack of dedicated IT development resources,
2. Minimal documentation of business processes with no traceability to requirements, and
3. Use of under-skilled project managers.

This project was structured to allow the agency to build on lessons learned and to mitigate some of the issues previously encountered. Decisions that impacted the outcome included:

- Contracting with an experienced IT solution vendor with proven ability to deliver high quality software using an iterative approach.

- Leveraging documented future state business processes to complete high-level system design before starting development and revise the project schedule prior to starting development work based on the high-level system design.

- Engaging a highly qualified, full-time, dedicated project manager with proven leadership and management skills.

- Following an iterative application development methodology to allow frequent build releases to monitor progress, quality and adherence to documented design.

- Building on design artifacts created during previous attempts to replace the system.

- Building a cross-functional development team with a combination of internal business and IT staff resources combined with contracted resources.

- Engaging an external quality assurance provider who also had experience and an ability to provide some independent validation and verification services if needed.

The agency also looked into whether it might be possible to re-use some of the Criminal History System components with minimal modification in a new system.[1]

The Background Check System project followed an iterative development process. After project initiation, the project team assessed the current system and high-level design to identify the best way to reuse components of the existing system. The project team also reviewed the business requirements and future state process flows that had been documented in previous attempts to replace the system. Next, the contracted resource worked collaboratively with the department to create the development plan. The development plan grouped functionality into releases for iterative release cycles using a "phased-gate" approach that included detailed design, development, testing, training and implementation. Once the development plan was accepted, the team executed an iterative development process to enable the department to put essential functionality into use as quickly as possible.

Over the course of the project, nine change requests were evaluated and approved. Implementing these change orders added nine additional months to the overall project schedule and increased the total project budget by $252,543 over the original approved amount. Most of the increase to the budget was attributable to a mid-development decision to add an e-signature component to the BCS. However, all cost increases remained within the original contingency budget. As a result, the overall project came in **$45,951 under budget**, with total outgoing expenditures just under $4 million altogether. The additional contribution in time devoted to the project by department staff was estimated to be worth around $530,000.

Impact

The most important goals and objectives of the Background Check System project have now been realized.

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[1] While we thought this might be viable when we started the Background Check System project, it turned out that the Criminal History System's database schema could not practicably be recycled after all. At that point, we executed a change order to allow our vendor to upgrade all existing interfaces to standard web API technology and allow additional time for data migration.

- The department's Background Check Central Unit is using the new system for submission and receipt of *all* background checks.
- The old Criminal History System has been retired.
- The new system retains and improves on the functionality of the previous system.
- The new system is more easily maintainable in a modern network infrastructure that is in alignment with Washington state's overall technology strategy.
- The new system features improved security and mobility.
- The new system is accessible through a web-browser 24 hours a day, seven days a week. It allows applicants to remotely and securely enter, and electronically sign their background check authorizations through mobile browsers, with required information immediately available for authorized users to submit to the Background Check Central Unit for processing.
- The Background Check System successfully interfaces with other state systems at the Department for Children, Youth and Families and the Department of Health. It also provides a direct connection to the Washington State Patrol, the Administrative Office of the Courts, and four other data sources that provide relevant background check findings, such as Child Protective Services and Adult Protective Services.
- There is no longer any need for manual processing and rejection by staff of incomplete forms as the system requires all fields to be completed and will not allow users to submit requests with incomplete information. Previously, background check staff reviewed and manually rejected approximately 32,000 background check authorization forms each year.
- There is no longer any need to fax background check authorization forms or results.
- All manual intake processes for background check staff have been eliminated.

With the new system, approximately 80 percent of background checks submitted by authorized users return results within minutes. The same results using the previous system and manual processes took, on average, five business days to complete. Customers have been surprised and pleased by the speed at which background check results can be provided through this quick return process that occurs when an applicant has no record "hits." For background check applicants who are seeking to become contracted providers for DSHS clients, the contracting process has been significantly shortened as well. In these instances, the almost immediate turnaround made possible by the new system translates directly to an improved, faster service delivery experience for department clients.

Now that the Background Check System is operational in production, continued development work is aimed at improving the system workflow engine and data source search times to meet the stated outcomes by the end of 2019. Within the calendar year, the agency fully expects to reach the goal of maximum turnaround times for background check results of two days or less.