Core Systems Replacement Project - Business Process Innovations
Oregon Department of Revenue

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EXECUTIVE SUMMARY

Perhaps the most important systems for state governments are those that account for and collect the revenue necessary to provide essential government services. The Oregon Department of Revenue (DOR) is responsible for operating and maintaining the tax systems that provide the state of Oregon with over 90% of the state's General Fund. The Core Systems Replacement (CSR) project was initiated to mitigate the risk of failure of some of the most important systems supporting the Oregon state government. This four-and-a-half-year project replaced 87 of the DOR's core legacy tax systems with GenTax, a commercial off-the-shelf tax administration software from Fast Enterprises. This project was completed on time and under budget.

It was a tremendous challenge to replace the legacy systems, which were developed over decades, did not communicate well with each other, and were written in antiquated programming languages. This project required careful planning and execution so that the system cutover was seamless with no interruption to the flow of revenue necessary to fund the state government.

The CSR project—and the overall implementation of GenTax—have changed the way the DOR conducts its business. In addition to changes in the DOR staff's day-to-day activities as a result of new tools available within the system, there were also major changes to key business processes. These process innovations were not driven by the new system, but the system provided solutions that were not previously available to the DOR, including:

- Revenue Online, which has expanded the availability of online services for taxpayers, tax practitioners, and partner agencies;
- New and expanded tax administration tools, such as fraud detection and real-time processing;
- The automation of processes that were performed manually in the legacy system, which has resulted in increased efficiency, more streamlined processing, and increased accuracy of data entering the system;
- A single, integrated view of the taxpayer that includes all the information about a taxpayer in one account for staff to see and use, which has replaced the archaic "green-screen" technology the DOR previously relied upon;
- Enhanced system security, which is critical for handling taxpayer information;
- The agency's ability to retire its multiple, disparate, and antiquated systems, which reduces the burden of system maintenance and provides greater flexibility in implementing new legislative and agency initiatives.

This immense project touched nearly every corner of the organization. In addition to successfully providing a modern, state-of-the-art system, this project also transformed the organization's operations by creating new, more efficient workflows and business processes. The Oregon Department of Revenue is pleased and proud to nominate the CSR project for this award, because we believe that the innovations this project helped create will serve Oregon and its citizens for decades to come.

CONCEPT

Business Problem

In 2009, the DOR prepared a document entitled *Current State Assessment and Preliminary Future Vision.* This assessment of the DOR identified several problem areas, including its technology and business processes. The assessment acknowledged that Oregon's tax and revenue administration were supported by a technical architecture that was designed in the 1980s, with core processes that relied upon a myriad of aging and obsolete software applications and databases. These legacy systems had inherent limitations that significantly inhibited the agency's ability to achieve its mission, which is to make revenue systems work to fund the services that preserve and enhance the quality of life of all citizens. Furthermore, the employees with the knowledge and skills necessary to maintain and update these complex systems were retiring or leaving the public service workforce. The risk of system failures was increasing, which was unacceptable considering the systems delivered 90% of the state's General Fund revenue.

The legacy systems were developed as solutions to specific business problems, rather than as solutions for the entire organization. Some systems were barely connected—if they were connected at all—across boundaries, which effectively isolated them from the other systems. Some of these systems were at risk of reaching maximum capacity, failing, or both. Because the systems did not communicate with each other, staff did not have a "single view" of each taxpayer. The systems were highly specialized, inflexible, and required the use of several manual workarounds to business processes, which added risk and complexity to the agency's work flow. Additionally, annual changes and tax law revisions required multiple, complex system updates.

In addition to technological problems, many agency business processes were developed within each tax program rather than for the entire organization, resulting in a highly siloed operational environment. The DOR wanted to simplify and standardize its business processes across tax programs, where appropriate, and leverage best practices in tax administration to make the department as efficient as possible.

The DOR's assessment also recognized that tax administration across the country was undergoing sweeping changes. Taxpayers were demanding new ways of working with the government that matched the convenience of private-sector innovations like online banking and automatic bill pay. The issues with creating such an interface with the DOR's aging system made it difficult to provide robust online service offerings. Additionally, businesses and individuals were using complex and sophisticated strategies to reduce and avoid paying taxes. The DOR's existing systems lacked the tools to effectively detect these practices, which forced the agency to rely on manual, resource-intensive processes to combat tax fraud.

To prevent system failures, respond more effectively to changes in tax laws, address complex tax avoidance strategies, and meet taxpayer expectations, the DOR needed to improve its core business processes and support them with better technology.

Finding a Solution

To guide the agency's choice between the available solutions, the DOR identified four key business needs: enhanced compliance and revenue, improved customer service, increased overall efficiency, and increased flexibility in tax administration.

After carefully considering their options, including maintaining the existing systems or modernizing and upgrading them, the DOR proposed replacing its core systems with a commercial off-the-shelf (COTS) integrated tax system. A COTS solution provided the following features in response to the agency's key business needs:

1. Enhanced compliance and revenue
   - Increased ability to detect noncompliant taxpayers
   - Faster identification of underreporting taxpayers
   - More effective audit candidate selection
   - Increased fraud detection
2. Improved customer service
   - A wider variety of secure and efficient web services with real-time processing
   - Facilitates more complete, accurate, and timely answers to taxpayer questions
   - Increased information security and privacy
3. Increased overall efficiency
   - Improved data-driven decision-making
   - Reduced errors and transaction times
   - Shorter training times
   - Fewer redundant steps
4. Increased flexibility in tax administration
   - Quick, economical responses to statutory changes and requests for information
   - The ability to adapt to evolving taxpayer needs

The Core Systems Replacement Project

In early 2012, the DOR conducted a competitive procurement process for a COTS solution and selected GenTax, a product of Fast Enterprises, LLC (FAST). GenTax was flexible enough to be configured to meet the needs of the DOR, and as of the beginning of the project, had already been operating successfully for more than 20 other state and local revenue agencies. The Oregon State Legislature approved and funded the Core Systems Replacement (CSR) project in July 2013. The overall initial cost estimate was $70.9 million over four and a half years, with the final "go-live" scheduled for December 2017. The project was primarily bond financed and the project team consisted of 36 dedicated DOR staff members, along with the vendor's implementation staff and contracted staff, who assisted in quality assurance and change leadership activities.

Because of the size and complexity of this project, it was divided into four discrete phases or rollouts, to make the work more manageable. For each rollout, the affected legacy systems were maintained until after the tax programs were successfully migrated to GenTax. The period covered by this nomination includes rollouts 2, 3, and 4, which went live on December 1, 2015, November 16, 2016, and November 13, 2017respectively.

The initial rollout is not included in this nomination because it was completed prior to the eligible timeframe, but it served as the foundational phase of the project and laid the groundwork for the processes and procedures that were used to implement the higher-impact tax programs, included in the final three rollouts.

The agency's project management approaches for the CSR project were:

- Tailored to work with the FAST implementation methodology;
- Balanced by more traditional methods for overall metrics and reporting;
- Conducted in accordance with the Project Management Institute's standards as described in the *Project Management Body of Knowledge*;
- Inclusive of both Executive and Legislative branch oversight.

This combination of traditional and hybrid project management methods ensured that the advantages of each were incorporated into the project to encourage flexibility, effective risk management, and delivery of value. In addition, this project incorporates the *NASCIO State CIO Top Ten Priorities for 2018* of: Security and Risk Management, Consolidation/Optimization; Digital Government; and Budget, Cost Control and Fiscal Management.

SIGNIFICANCE

In total, the four rollouts replaced 87 legacy core systems with one integrated tax system. Rollouts 2, 3, and 4 moved the administration of Oregon's largest and most impactful tax programs—the Personal Income Tax and Withholding programs—from the legacy environments into GenTax, as well as estate, marijuana, state lodging, and other tax programs. The addition of Revenue Online functionality also enabled the DOR's many partner agencies to manage their information online, rather than through other more complicated means.

During the life of the project, over 4.2 million taxpayer accounts representing over $30 billion in taxes, penalties, and interest, were converted to GenTax and reconciled to the penny—the result of careful planning and multiple mock conversions. In total, 594 separate tax programs were successfully implemented and 1,245 individual business and technical requirements were met.

The CSR project addressed and fulfilled the expectations highlighted in the agency's key business needs, while proactively engaging and benefiting key project stakeholders, including taxpayers, DOR staff, the Executive and Legislative branches of state government, partner agencies (including the IRS and other governmental jurisdictions), tax practitioners, tax software vendors, debtors, and other DOR customers.

In tandem with the CSR project, all business processes and workflows were reviewed, documented, and assessed for efficiency. This review was a fundamental step towards ensuring that the agency could meet its goal to increase overall efficiency. About 100 separate workflows were analyzed, and improvements were made to help the agency conform to best practices in state government tax administration.

Some of the improved processes and practices that were implemented during the CSR project include:

- Expanded and improved online services for taxpayers
- Fraud detection
- Automation of filing enforcement
- Centralization of similar functions
- Real-time processing
- Work assignment and monitoring
- Billing and statements
- Refund reviews
- Account scoring
- Audit discovery
- General Ledger posting

IMPACT

One integrated system: The CSR project consolidated almost all state tax programs into one modern, integrated platform. The new system provides staff with a complete picture of every taxpayer without the need to toggle between several separate systems. Any images and documents associated with taxpayers are now immediately available to staff. This unified approach eliminates the errors inherent in working across multiple systems and saves valuable staff time that can be more efficiently utilized to support additional account work. The use of one integrated tax system also streamlines staff training. When employees transfer within the agency, they no longer need to learn a new and separate system, and can become productive in a much shorter timeframe.

Revenue Online: One of the most important and visible deliverables from the project is the increase in online self-service options for taxpayers and their representatives. Prior to the project, taxpayers were limited in the types of self-service options that were available to them; they could make payments for certain taxes, submit limited numbers of attachments, and use very limited query capabilities. There has been a tenfold increase in the online options offered to citizens, including a wide array of self-service options that allow taxpayers to establish payment plans, view correspondence from the DOR, and review their recent account activity. Taxpayers may now file all their tax returns, remit payments, perform account maintenance activities (e.g., updating addresses and names), and submit a variety of items online, including appeal and waiver requests, financial statements, garnishment challenges, garnishee payments and responses, and fraud prevention identity verification reports. This online functionality can be accessed via tablets, cell phones, and standard desktop computers. The expansion of the agency's online services also mitigates the need for the DOR to process paper and perform redundant, time-consuming data entry that introduces opportunities for additional errors. The expanded e-Services functionality also extends to partner agencies, which eliminates delays in communication.

New tax administration tools: This project introduced new and expanded tax administration capabilities and tools. Advanced data analytics tools have been

introduced to improve audit selection, by allowing the agency to target the taxpayers who are most likely to be non-compliant, and to improve delinquent tax collections by prioritizing workloads in a manner that presents the most collectible accounts first. Other analytics tools are also being used to reduce identity-theft-based refund fraud. A dynamic, business rules-based matrix lowers the possibility of fraud by allowing the department to change and add business rules in response to filing trends. New tools are also helping managers dynamically control and prioritize workload assignments.

Enhanced automation: With the implementation of the CSR project, many manual activities are now partially or completely automated. These activities include filing enforcement, taxpayer notifications, fraud detection, returned mail, audit discovery, suspense accounts, and General Ledger posting. The move to real-time processing ensures that everyone is viewing the most current information, which reflects all recent inputs, rather than waiting for multiple nightly turnovers to complete tasks.

Security: The new secure Revenue Online functionality requires two-factor authentication to conduct confidential interactions. Internal security improvements include the ability to track and report all actions performed by users within the system. Additionally, the GenTax Snapshot feature enables real-time playback of clicks, made within the system by users (both DOR employees and Revenue Online users).

A flexible, nimble, and up-to-date system: The new system has the benefit of being able to always be technologically current due to periodic system upgrades. These upgrades provide the DOR with access to emerging industry innovations and practices. The agency is no longer tethered to outdated technologies that are increasingly difficult to support, which effectively mitigates the risk of potential system failure. The new system leaves the DOR better positioned to implement new tax legislation, because they no longer need to create and maintain a new, additional system, in support of each new tax that is implemented. In fact, the DOR was able to fully implement the new marijuana tax program, which was approved by the Oregon State Legislature in July 2015, on time the following year.

The entire CSR project was successfully completed on time and under budget, without chargeable change orders or the use of any budgeted contingency funds. When the project was initially funded in 2013, the original budget was proposed to be $70.9 million over the four-and-a-half-year timeframe for completion. With a strict adherence to project management principles and the executive leadership's commitment to a successful implementation, the project went live with all the project phases completed within the proposed timeframe and with an overall project cost of $59.1 million, which saved $11.8 million.

Against a backdrop of troubled large-scale state IT projects, the Core Systems Replacement (CSR) project was successfully completed and now serves as a model for managing large-scale IT projects throughout the state of Oregon.