

IDC ExpertROI® SPOTLIGHT

New York State Collects Taxes More Effectively and Efficiently with IBM Business Process Management Solutions

June 2011

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Overview

The New York State Department of Taxation and Finance processes more than 24 million business and personal tax returns each year, collecting more than \$90 billion in state and local taxes. To make its tax compliance and collection processes more effective and efficient and its staff more productive, the department chose to convert from a batch-oriented mainframe environment to a transaction-based system utilizing IBM Business Process Management (BPM) solutions integrated with the mainframe.

IBM Software for BPM combines with IBM's Tax Collection Optimizer System (TACOS) and IBM's Tax Audit and Compliance System (TACS) to increase the state's tax revenue by identifying which tax returns should be audited and investigated, which refunds should not be paid, and how best to collect unpaid back taxes. The IBM solutions also increase the effectiveness and productivity of the department's IT, audit, and other staff, resulting in average annual benefits of \$118.7 million, a five-year return on investment (ROI) of 1,461% and a payback period within six months of final deployment.

Implementation

The department deployed IBM WebSphere MQ Workflow in 2004 to automate workflow as part of a modernization initiative. It added IBM Software for BPM in 2006 to automate both the processing of personal income tax returns and the receipt of files and returns for its corporate tax system. In 2008, the department decided to change its core tax processing architecture

Business Value Highlights

Organization: New York State
Department of Taxation and Finance

Location: Albany, New York

Challenge: Maximize taxes collected while increasing IT and other staff productivity and improving customer service

Cumulative Benefits:

- \$594 million for 5-year period
- Five-year ROI of 1,461%
- Payback in six months (from deployment)

Specific Annual Benefits:

- \$117 million in additional revenue gain
- \$1.45 million in cost reduction
- \$652,000 in increased IT staff and end-user productivity

when projections for personal income tax processing showed it would need a significant mainframe upgrade to handle the workload, which would result in higher costs.

In moving to the new computing environment, the department employed IBM Software for BPM, running on distributed IBM pSeries servers, to host the transactions as "microflows." It also redesigned the personal income tax returns database from relational to XML as the new system of record. Using the returns data in XML with Lotus Forms allows staff to see the captured and computed data on the actual form and not as a green-screen transcript.

Additionally, the batch COBOL Rules Engine was rewritten to run on IBM Software for BPM as a Java application, and IBM WebSphere Commerce was used as the Online Tax Center engine.

Moving to the new computing environment was not without risk because of the large amount of tax revenue involved. However, having made the transition successfully, the department is now positioned to capitalize on further innovation.

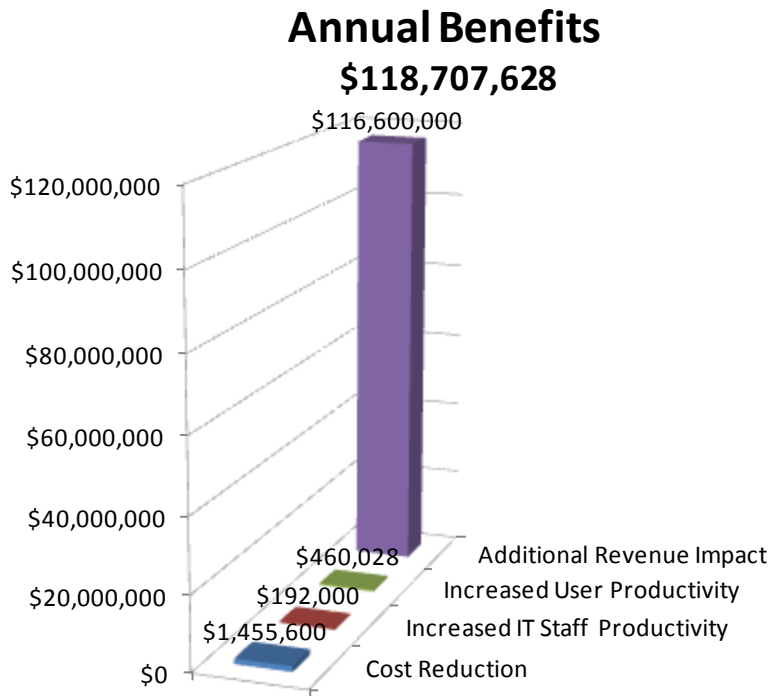
Benefits

With IBM solutions such as Lotus Forms, the New York State Department of Taxation and Finance has been able to maximize the amount of tax revenue collected, improve customer service, increase staff productivity, and respond more quickly to new requirements. Projects now go live in months or weeks instead of years.

The system has also enabled the state to collect more delinquent tax revenue and combat sophisticated tax evasion techniques. IBM solutions provide a single view of each customer with an increased level of detail regarding tax filings history, including previous errors and omissions. This level of data, combined with analytics, enables New York State auditors to apply trend analysis. It automatically rejects refunds that are clearly ineligible, directing auditors to returns that seem most unusual. As a result, the percentage of audits with questionable refunds has increased and the existing staff can process more cases. At the same time, refunds are processed faster so that taxpayers get their money sooner. Additionally, the system has allowed the department to evaluate different audit programs and develop a comprehensive audit history, paving the way for ongoing improvement.

Figure 1 shows the breakdown of the increased revenue and annual savings from cost reductions and improved IT staff and end-user productivity.

Figure 1.



Source: IDC, 2011

Increased Revenue

Since deploying the IBM solutions, the state has been able to close the "tax gap" between taxes owed and collected by combating tax evasion techniques, identifying refunds that should be denied, and collecting more delinquent tax revenue. Also, by processing legitimate refunds faster, it has significantly improved customer service.

With its questionable-return detection process, the system has reduced refunds by more than **\$1 billion** during the past four years. "People took deductions that weren't verified and frequently weren't deserved," said Director of Architecture Jim Lieb. "So we reduced the refund by that amount. The savings have more than paid for the whole system."

With the IBM solutions, the personal income tax system can process 650,000 returns a night compared with the previous limit of 60,000. "There's a time frame for us to process the returns before we have to pay interest on refunds," Lieb said. "This includes the ones that go through clean and the exceptions that are kicked out. The faster you can process the exceptions, the less likely you will have to pay interest."

With IBM TACOS, the state is also more effective in collecting taxes from delinquent debtors. Using a combination of data analytics and other models, TACOS optimizes the order of activities that tax agents should take to maximize debt collection, taking into consideration an agent's case load and ability to perform the suggested actions.

"It may say the best thing to do is make a phone call, send a field agent to visit, or seize the person's property," explained Lieb. "Since its inception in January 2010, collections went up \$83 million." For the majority of the department's customers that pay their taxes faithfully, the

IBM solutions have improved customer service. Providing better and more accurate communications has increased voluntary compliance. Executing real-time adjustments to taxpayer accounts has accelerated refunds and reduced double billing and letters of delinquency.

Enhanced End-User Productivity

The IBM solutions also increase staff productivity by automatically rejecting refund requests that are clearly ineligible, preventing them from entering the audit process. The system then uses predictive models and business rules to ascertain the priority of each remaining case. As staff members complete each case, the system presents the next best one, maximizing staff effectiveness and helping ensure that the department's resources are always directed to where they will make the greatest difference.

The new system enables the staff to implement legislatively mandated changes more easily and quickly. The staff time to implement these changes has been dramatically reduced, saving a total of \$544,000 annually.

In another initiative, the department has opened channels to taxpayers and tax preparers with IBM WebSphere Commerce, which provides single sign-on for all Web applications and a catalog of authorized applications for each user. Close to 750,000 taxpayers and tax preparers have already registered, and the burden on call center personnel in creating business accounts has been cut by 20%.

Improved IT Staff Productivity

With the new computing environment, the department has much greater agility in handling change. With the personal income tax system, it used to take 30 programmers four months to code and test the changes needed for the following year's tax returns. Now it takes eight people less than six weeks. Since the deployment of the IBM solutions, the department has also been able to reduce the time spent on operations management. "Before we had five people dealing with operations day to day," Lieb said. "Now we only need three people for 60% of their time." In total, the annual benefits from savings in programmer and operations staff time have averaged **\$192,000**.

Cost Reduction

Since the IBM deployment, the department has reduced costs by eliminating printing and mailing activities and the outsourcing of sales tax processing.

Previously, the department mailed sizable packets of resident income tax forms and filing instructions to 10 million taxpayers each year. It also generated, printed, and mailed 3.2 million coupons to taxpayers reporting revenue from government sources and mailed Web downloads to people without Web access. It has now halted proactive mailings, saving an average of \$750,000 a year in printing and mailing costs.

The department is also saving the fees it used to pay for the processing of sales tax filings, which could be completed only quarterly by a limited group of vendors. Now it services all sales vendors in-house and accepts annual and monthly filings in addition to the quarterly filings. The savings have averaged \$706,000 a year, resulting in an average total cost reduction of **\$1.45 million** a year.

Return on Investment

IDC projects that New York State will realize a five-year ROI of 1,461% from its use of the IBM solutions. Payback on the initial investment (made in 2006 and 2007) occurred within six months once the solution was fully deployed (see Table 1).

Table 1.

Five-Year ROI Analysis	
Benefit (discounted)	\$372.9M
Investment (discounted)	\$23.7M
NPV	\$349.2M
ROI	1461%
Payback	6 months after deployment
Discount rate	12%

Source: IDC, 2011

IDC ROI Methodology

IDC conducted an interview with the New York State Department of Taxation and Finance to quantify the benefits and investment associated with its deployment of IBM solutions. IDC then created an ROI analysis from the results. IDC calculates the ROI and payback period in a three-step process:

1. Measure the benefits from higher revenue, increased IT staff and end-user productivity, and other cost savings since deployment.
2. Ascertain the total investment.
3. Project the investment and benefit over five years and calculate the ROI and payback period. The ROI is the five-year net present value of the benefit divided by the discounted investment. To account for the time value of money, IDC bases the ROI and payback period calculations on a 12% discounted cash flow.

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