

COTS Solution for Real Estate Licensing Application

Digital Government: Government to Citizen (G to C)

New York

B. Executive Summary

The New York State Department of State (NYDOS), Division of Licensing Services, administers laws that regulate the activities, licensing, registration, inspection and investigations for a wide range of occupations/professions comprised of more than 770,000 businesses and individuals in over 30 occupational areas. The Division's customers include the financial community, corporations, attorneys, local governments, and the citizens they serve.

Like many organizations within state government, the New York State Department of State Division of Licensing Services (Licensing) is faced with increasing statutory demands, reduced resources, and increasing work volumes. These challenges are putting great strain on the legacy applications which support the division's core responsibilities. These applications are mostly standalone systems, spanning multiple platforms, developed using several different programming languages and tools.

In order to operate more efficiently, the Department needed to eliminate the older technology infrastructure to improve both e-commerce services and replace what are becoming unsupportable legacy systems. In addition, the Department needed to simplify the complexity of the current environment associated with supporting licensing functions. In order to operate efficiently and streamline operations and functional processes, integrated systems with common interfaces that address the various business functions (exam administration, license application and issuance, renewal processing, complaints, investigations, etc.) were required. Finally, a system that can be quickly and easily modified to meet ever-changing legislative requirements for new license types or changes to existing license types was required.

In April of 2008, NYDOS placed into production a new commercially viable, industry-proven occupational licensing management system and branded it **eAccessNY**. Acquired through Versa Management Systems Inc., this commercial-off-the-shelf (COTS) application was configured and customized to support the primary business and management functions necessary to license and regulate some 137,000 real estate professionals. Starting with the real estate salesperson and broker license types, it significantly improved responsiveness to the Department's customer needs, improved the accuracy of data, reduced processing time and improved licensing issuance time from 6 weeks to 48 hours. The system offers Internet self-service functionality, which results in greater efficiency for back office processing and industry administrative /business functions equally. Since its inception, it has delivered improved customer service to several stakeholders involved with each industry including schools, the public and other government agencies. NYDOS has made a major investment in training of staff and marketing to key stakeholders to assure buy-in and promote "ownership" of license lifecycle management, including visits by NYDOS staff to industry professionals to answer questions and assist with familiarization. The effort has resulted in a compliance rate of 69% by real estate professionals in its first year of implementation. This system may also align with New York's Chief Information Officer's goal of a Statewide Enterprise Solution.

C. Description of the Business Problem and Solution:

The Department needed to eliminate an older technical infrastructure both to improve e-commerce services and replace what are becoming unsupported legacy systems. In addition, the Department needed to simplify the complexity of the current environment associated with supporting Licensing functions. These functions were supported by unrelated systems spanning multiple platforms and resulted in a negative impact on the organization as a whole. Specifically, the NYDOS Division of Licensing Services was supported by a mix of technologies: license processing applications are written in CICS/COBOL or Model 204, both mainframe-based environments. Especially in the CICS/COBOL applications, the license types are individual stove pipes with no integration across the disciplines. There was little to no automation in the exam development area. For exam administration, Licensing uses Optical Mark Recognition (OMR) equipment to grade exams. On the enforcement side, Licensing operates a PC-based (Paradox) complaint system and there is a mainframe-based hearing and docket system used by the Office of Administrative Hearings. There was no direct integration between these systems and the core license processing applications.

The Department had previously decided to migrate all significant DOS applications from a mainframe environment to servers using a core set of software technologies including Microsoft's server operating system (currently Windows Server 2003), Oracle Database (currently Oracle 9i), Oracle Application Server (9i AS) and Crystal Reports. New applications would, wherever possible, be created using a browser-based (Internet Explorer) interface. Primary programming languages would be PL/SQL (Oracle's primary programming language), JavaScript and Visual Basic. The driving force behind this initiative was to establish a technical infrastructure in which electronic transactions, especially those via the Internet, could be effectively implemented. It was planned that the existing CICS/COBOL-based licensing applications eventually be redeveloped in this environment by in-house staff. However conflicting priorities and shrinking resources were making that approach impractical.

The services and functions provided by the Division of Licensing are not unique. Various public and private entities develop and administer examinations, issue licenses based on a set of qualifications, issue renewals of those licenses based on an update of information, and conduct investigations of persons or organizations. Certain processing requirements are unique but, in all likelihood, one or more off-the-shelf, yet customizable, software products would address the majority of Licensing's core requirements. Consequently, it followed that Licensing should seek out and acquire appropriate off-the-shelf software and have it customized to meet their needs. In selecting such software, addressing user requirements was paramount. However, of equal importance, was to ensure that the software was supportable by NYDOS IT Services staff. As such, chosen software should preferably be written using Oracle DBMS and operable in a Windows environment.

A project was initiated to assess the potential for supporting Licensing business processes with commercial-off-the shelf licensing / regulatory software. The software was rated on ability to support the Department's business requirements, compatibility with DOS hardware/software environment, flexibility, company viability, cost, etc. The initial phase was limited to the real estate related licenses and served as a pilot project to ensure the COTS software was a viable alternative for the Department. Ultimately, the Department requested proposals from qualified contractors for a COTS business / occupational licensing solution with accompanying implementation services and awarded the project to Versa Management Systems, Inc.

The project was conducted in several phases including gathering business requirements (staff interviews, a business process study, etc.), initial configuration of the COTS product, customization, training, user acceptance testing, problem resolution, and finally placing the system into production. Throughout the process, routine project management was shared between single representatives from Versa and NYDOS. Additionally, a Steering Committee met regularly in order keep the project on target.

Versa's commitment to project success was evident through constant availability of developers, technicians and other project staff. Versa also sent key staff to NYDOS during crucial phases of the project, which was extremely helpful during phases such as training and during the first week of production. The availability of Versa staff to provide direct, face-to-face feedback to NYDOS IT Services staff and end users alike was invaluable.

A major road-block to efficient operations for Licensing has been manual processes associated with license lifecycle maintenance. For example, the manner in which principle real estate brokers managed the association of salespersons involved many manual and inefficient processes. A key feature of our solution is the online public interface. This browser-based solution places the duty of lifecycle maintenance on the licensees, allowing them to more actively manage their licenses. It empowers Licensing's customers to take "ownership" of their respective licenses. It also significantly improved Licensing's efficiency, as the manual processes were greatly reduced. It also integrated and automated Licensing program areas that were previously separate (examinations, complaints, enforcement, hearings, etc.).

Versa's solution also follows an "entity-centric" model. When an individual is entered into the system for the first time, a unique number is assigned. In this way, the individual, or entity, is at the top of a hierarchy where all events, objects, processes, etc. are tied back to a specific, single entity. This allows for increased leverage and transferability to other license types regulated by NYDOS. For example, a currently licensed Real Estate Salesperson could, in the future, log on to the system and renew their Salesperson license, apply to take the Notary Public Exam and apply for a Security Guard Registration, all in the span of ten minutes.

The development project cost a total of \$722,625 allocated as follows:

Initial feasibility and requirements study	\$ 100,000
COTS software license	80,000
Installation, design and data conversion	243,425
Customization	299,200

Annual support costs for the first year of operation consisting of software maintenance and technical support ran around \$66,420.

Prior to placing the system into production, Real Estate professionals relied heavily on “paper” transactions completed in house by Licensing staff and on a lockbox service provided by JPMorgan Chase Bank to process renewals. In the full calendar year preceding system implementation, in-house paper and lockbox transactions each accounted for 39% of all real estate transactions (78% processed on paper), while Licensing’s legacy internet renewal system accounted for the remaining 22%. Additionally, all miscellaneous lifecycle management transactions (change of address, change of association, etc.) were completed as in-house paper transactions.

The system has been in production for over a year, and Licensing has realized many positive outcomes. They include:

- Number of Real Estate professionals logged on: 82,711
- Salesperson License Original Applications processed: 14,048
 - In-House Paper: 4,455 → 32%
 - Online Self-Service: 9,593 → 68%
- Renewals processed: 59,078
 - In-House Paper: 7,702 → 13%
 - Lockbox: 20,633 → 35%
 - Online Self Service: 30,743 → 52%
- Miscellaneous lifecycle transactions processed: 83,271 → 100%

D. Significance:

The significance of license lifecycle ownership can not be overstated, especially when considering the future addition of license types that NYDOS regulates. The increased efficiency realized with the online self-service features for the real estate license type has already paid great dividends. Additionally, the integration and automation of Licensing’s manual processes and legacy systems has significantly improved service delivery. When multiplied over Licensing’s 30 disciplines, the possible benefits to Licensing’s customers are considerable.

This COTS solution also lays the framework for and aligns with New York State’s Chief Information Officer’s goal of a statewide enterprise solution. Since the system utilizes Oracle technologies and industry standard and supportable programming languages (PL/SQL, Javascript and VisualBasic), this solution is more compatible than Licensing’s legacy systems, with possible state-wide enterprise solutions.

E. Benefit of the Project:

The benefits of this project are three-fold. First, the increased number of automated processes combined with the online self-service features has improved license issuance time from six weeks to forty-eight hours. This reduces manual errors, improves data accuracy and significantly improves customer satisfaction.

Secondly, placing the onus of license lifecycle management on the licensee liberates Licensing staff from the manual, inefficient, and time consuming processes allowing them to contribute in other areas, such as the improved license issuance time mentioned above. Licensing staff spent a prohibitive amount of time on transactions such as address changes, duplicate license requests, name changes, changes to Salesperson or Associate Broker associations to Principle Brokers. All of these lifecycle transactions are now completed by the licensee through the online self-service features.

Thirdly, the “entity-centric” model of this COTS solution allows for extraordinary flexibility and portability to other license types. Additionally, it facilitates the integration of other Licensing program areas (examinations, complaints, enforcement, etc.) and processes into a single platform. Ultimately, it makes Licensing more responsive to its constituents.