Case study

Rhode Island Division of Motor Vehicles application modernization: The Rhode Island Motor Vehicle System

As part of their application modernization effort, RI DMV identified the following business goals:

- Improve customer service delivery

- Reduce the cost of ownership for hardware, software and maintenance

- Enable a platform to implement future technologies such as kiosks, interactive voice response (IVR), chatbots and artificial intelligence (AI)

- Gain the ability to make modifications to systems through an administrative function

- Integrate financial management and reporting capabilities

The challenge

The Rhode Island Division of Motor Vehicles (RI DMV) needed to modernize multiple legacy applications into a single customer centric solution. Although the agency had modified these applications to support business requirements, they were difficult to use, costly to maintain and made it challenging to leverage newer technologies. Additionally, continuing to modify these systems was becoming increasingly problematic.

Perspecta's innovative approach to application modernization

To meet the customer's needs, Perspecta proposed a highly collaborative modernization approach that included an assessment of the legacy applications, business process review and re-engineering, and the development, customization and deployment of Perspecta's complete motor vehicles and licensing solution using an agile methodology. Improving and streamlining the business processes creates efficiencies and enhanced customer service delivery.

During the initial phase of the modernization, Perspecta assessed all business processes that were being performed within the legacy applications and worked with RI DMV to define which processes would be replicated, re-engineered or retired within the modernization solution.

Next, an agile development methodology was employed to enable the teams to complete daily builds and automated regression testing that resulted in improved speed of deployment, frequent delivery of completed functionality and increased team productivity. Joint scrum teams included developers, testers and DMV subject matter experts working together to deliver functionality that was tested and accepted by the customer at the end of each sprint. Agile showcasing and retrospective ceremonies at end of each sprint allowed the teams to collect feedback which increased productivity and quality and reduced risk.

Perspecta's motor vehicles and licensing solution

Perspecta's highly configurable, customer-centric motor vehicles and licensing solution enabled RI DMV to make many changes through a user-friendly interface without having to make application code changes. This allowed RI DMV to reduce development costs during modernization maintenance and allowed their technical teams to focus on other initiatives that further enhanced RI DMV's citizen services.

Figure 1. Perspecta's motor vehicles and licensing solution
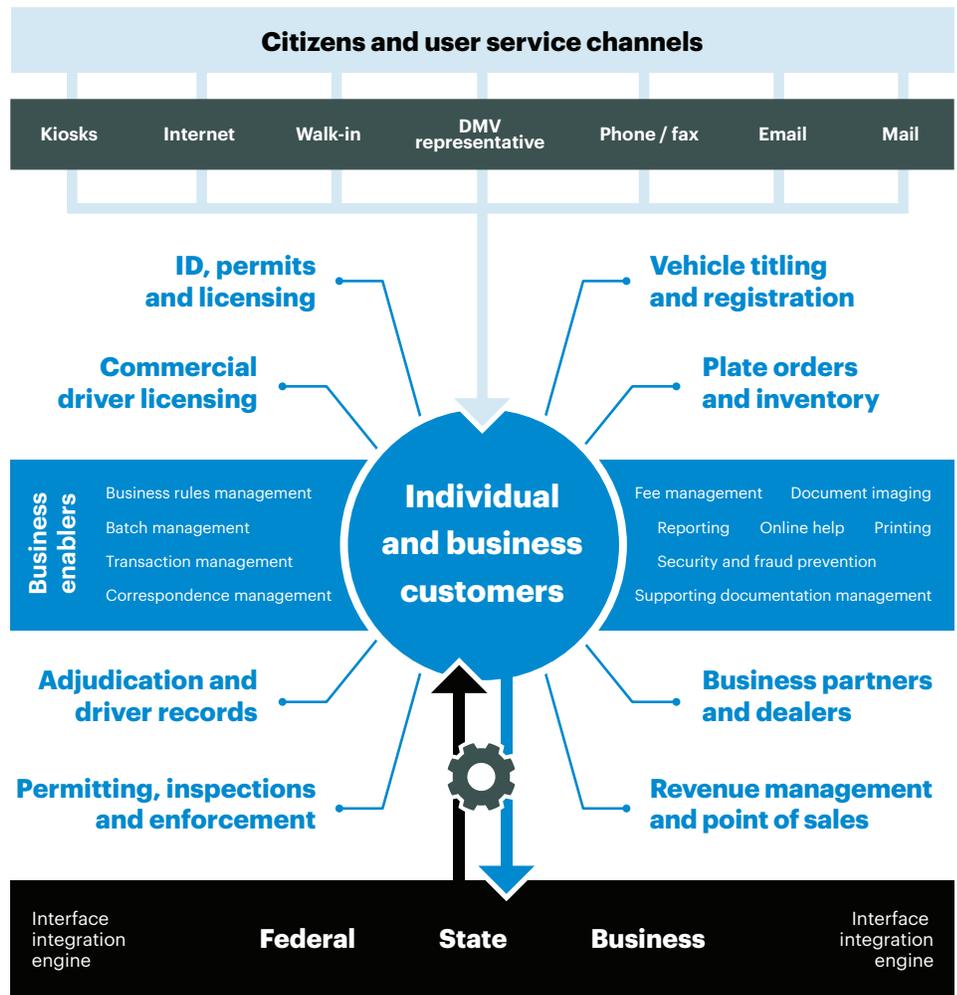
Key transformations

Specific areas of transformation enabled service modernization to deliver improved citizen-centric services.

Transformation	Original state	Current state
Modernized platform	• Multiple mainframe systems for licensing, registration and adjudication • Multiple Access databases and paper-based processes	• A single .NET solution with MS SQL server database encompassing core functions performed by the DMV
Customer service	• Customers were required to visit multiple departments for different types of transactions	• The DMV can provide access to complete customer information and core services such as registrations, titling and licensing to the customers from a single counter
Business rules and fee management	• Most policies and transaction checks were enforced through user knowledge • Fee calculations were hard coded and manual	• Transaction eligibility checks were incorporated into the system through configurable rules tables • A configurable business rule engine calculates fee amounts based on business rules • An interface provides the ability to change fee amount or calculation
Data entry	• Manual data entry was required for every transaction	• Where possible, prepopulating of the data eliminates unnecessary data entry by users

Compliance	• Not complaint with REAL ID and State-to-State verification services	• REAL ID and State-to-State compliant
Revenue management	• Independent cash management process • Manual reconciliation	• Integrated point-of-sale with an open, close, reconcile cash drawer and easy to use reconciliation reports
Identity and access management	• Separate login and permission for different systems	• Active directory authentication coupled with configurable roles and workstation-based privileges
Reporting capability	• Limited reporting capability	• Canned and ad hoc reporting capability providing decision-makers with key information such as transaction times, revenue collection and user information
Database / data integrity	• 32 independent databases • Obsolete, incorrect or duplicate customer information	• A single customer-centric relational database • Rules enforcing data accuracy and eliminating data redundancy
Third-party interfaces	• Batch processing approach with limited real-time capability	• True real-time interfaces • Integrated, simple object access protocol user interfaces
Logging and auditing	• No logging and auditing inquiries	• Logging of all messages for all external interfaces • Database design built to provide complete audit capability
Enhancements	• Limited ability to keep up with frequent legislative and policy changes • Legacy technology skills and limitations	• Agile, continuous delivery model approach to deliver working functionality frequently with speed and accuracy. • .NET modern technical platform
Batch	• Limited batch to no batch monitoring capability	• Modernized and optimized batch scheduling and monitoring capability using enterprise JAMS scheduler
User training and system documentation	• No training manuals or system documentation	• Extensive training materials including class materials • Integrated help files with system user interface providing context-based help

Results

Perspecta was able to deploy and implement our motor vehicle solution for the RI DMV over a single weekend. This big bang implementation of a comprehensive customer-centric license and vehicle system—a major application modernization success—launched the new Rhode Island Motor Vehicle System which serves a large number of Rhode Islanders, handling approximately 977,000 registrations, 1 million driving and ID credentials, 235 different transaction types, 2.9 million transactions annually and 73 interfaces managed between the DMV and third parties.

Since deployment of the modernized solution, the RI DMV and Perspecta teams have processed over 10 million transactions and implemented significant enhancements to the solution. Perspecta continues to be the technology partner of choice for the Rhode Island DMV.