

# Nova Scotia Department of Community Services (DCS)

## Provincial Department provides Integrated Case Management with .NET Platform

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The Nova Scotia Department of Community Services (DCS) provides social and financial services to over 100,000 citizens. In serving the needs of those most vulnerable in society, the department recognizes the pivotal role its IT systems play in facilitating timely and effective service delivery to clients who depend upon DCS services to meet the basic requirements of every day life. With a mandate to migrate from the government mainframe, and in an effort to meet changing business needs, DCS embarked on the most comprehensive, complex, and highest impact IT implementation in its history. After extensive research, DCS agreed with xwave's recommendation of Microsoft® .NET-based technology, including the Microsoft® Visual Studio® 2005 development platform and Microsoft® SQL Server™ 2005 for its reporting. The new system has exceeded expectations in usability, performance, and ongoing operational maintenance costs.



### Company Overview

The Nova Scotia Department of Community Services (DCS) is committed to promoting the independence, self-reliance, security, and well-being of the variety of people that it serves, including individuals and families who are not able to provide for the basic necessities of life, persons with intellectual or physical disabilities who require at home support or residential facility placement, children in receipt of protective services due to allegations of child abuse in the home, families involved in foster care or adoptions, and many others. The Department has approximately 1,200 employees working in 40 separate physical offices across the province.

### Business Challenge

The IT systems, which facilitate the management of client, case, and financial data are the backbone of the department's ability to meet its service delivery commitments. In 1 program area alone the department is responsible for issuing cheques to over 24,000 clients on a monthly basis. In addition, roughly 1,000 cheques per day are produced for adhoc payments, special needs, or emergency allocations. On a monthly basis, the department is responsible for managing, distributing and accounting for roughly \$30 million in client and vendor payments in this program area.

The Department's IT systems were supported by older mainframe technology. Although it had never experienced a serious service outage, the IT department was becoming concerned that the risk of unexpected downtime was increasing as the system grew older and more outdated.

"The old system served us well for many years, and we never missed payments. But we have zero tolerance for missed monthly payment schedules, and as the system got older, reliability definitely became a concern," says Kevin Hall, Director, Information and Technology Services (ITS) Department of Community Services.

Several other factors led the IT team to reconsider the mainframe's future. One was a lack of information flow within the department. Data stored in the mainframe system couldn't be shared easily across service delivery areas. This resulted in redundant data capture, but also incomplete assessment of client circumstances, leading to inefficient use of resources and less than optimal outcomes for clients. "This meant the process for client case management required a lot of manual intervention for case workers, making it difficult for them to get a comprehensive view into a client's situation," says Hall.

Changing regulations also put pressure on the old mainframe system. In 2006 the government of Nova Scotia established new financial control guidelines. However, existing transaction management and data

### Solution Overview

#### Customer Profile

The Nova Scotia Department of Community Services provides citizens with social services and financial assistance designed to enhance their independence, security and well-being.

#### Business Situation

An aging mainframe which was unable to integrate client services demanded a modern, responsive IT solution, to remove the risk of system downtime and disparity between business need and system capability.

#### Solution

Large-scale implementation of a robust integrated case and financial management system, developed on a Microsoft .NET platform using Visual Studio 2005, and SQL Server 2005 for operational reports, in less than a year.

#### Benefits

- Stable, reliable platform
- Integrated Service Delivery
- Compliance with regulations

#### Software and Services

- Visual Studio 2005
- SQL Server 2005
- Visio 2003
- Office 2003

#### Partners

- xwave

storage made it impossible to fully comply with the new policy. The department was given a deadline of January 2007 to make the necessary changes.

To address these challenges and modernize its technology, the Department needed a new system that would allow for a common client registry, integrated case management across different service delivery streams, and internal controls in support of client eligibility and payment functions. This new system would also be required to achieve the same level of reliability as its predecessor.



“ I’m amazed at what we accomplished in a year – it was the busiest and most rewarding of my 30 year career in government. And we’ve already begun to realize benefits from the application architecture. ”

**Kevin Hall**  
Director  
Information and  
Technology Services  
(ITS) Department of  
Community Services

## Solution

Although the Department offers a variety of services to its clients, core case management functions and financial management processes are similar across business areas. The Department recognized the need for an Integrated Case Management solution that would:

- Provide a shared service delivery view of clients, where appropriate
- Facilitate standardized internal controls across functional areas
- Offer flexible service-specific business rules that are applied according to specific case types

Aside from demanding business requirements, the technology also needed to be considered. The new solution had to be easily integrated with software from SAP that forms the government’s ERP backbone. “What we wanted was a modern, easy-to-use, browser-based application, that was easily tied to our existing infrastructure,” says Hall.

The department partnered with xwave, an IT solutions provider, to deliver on these requirements.

After exploring a number of options, DCS decided on a new custom developed Web-based application based on Microsoft® .NET. The .NET environment offered the most efficient and cost-effective option. “The interoperability of the Microsoft software allowed the team to become productive very quickly, ensuring the on-schedule delivery of a highly usable system,” says Wayne Girvan, Project Manager, xwave.

Microsoft technology was a key success factor of the implementation, and several Microsoft tools were used throughout the life-cycle of the project.

Microsoft® Office® Visio® 2003 drawing and diagramming software was heavily utilized during the detailed design phase of the project. Visio’s capabilities allowed analysts to produce realistic screen mock-ups which could be iteratively evolved as detailed requirements were defined through numerous workshops with business resources. Providing Visio diagrams of “to be” screens allowed a non-technical audience to visualize the end product and better understand the navigation and workflow of the system. This enabled business resources to be extensively involved in the detailed design process, and achieved an IT solution which incorporated their feedback and met their business requirements.

An important factor in the success of such a large-scale custom development project was effective document management. Design requirements alone produced approximately 400 documents, in addition to the document needs of other essential project activities such as Change Management, Quality Assurance, Training, and the PMO. Microsoft® Office® SharePoint® Server 2003 accommodated all of the project’s document management needs – the ability to utilize shared workspaces and facilitate large team collaboration, manage updates and revision control of project deliverables, and differentiate between various levels of security access for document categories. The “alert” capabilities of SharePoint was also a useful feature, often used as a communication tool to ensure immediate notification of when a deliverable was updated (for example, a modification to an existing design document generated instant alerts to the developer responsible for coding the corresponding module).

The new application was developed using Microsoft’s Visual Studio® 2005 and .NET Framework 2.0. Team Foundation Server (TFS) enabled a large development team to work within a truly collaborative environment, while also providing effective source control and change management. The development and testing phase of the project utilized a “daily build” approach to ensure progress against time-boxed milestones. This approach would not have been successful without the capability within TFS to link source code, work items, and application builds. In addition to the efficiencies gained within the development cycle, this was integral to producing a quality product.

When deciding on an operational reporting solution for the new system, Microsoft’s SQL Server™ Reporting Services was the obvious choice. Reporting Services integrates seamlessly with the .NET application, applying the same system-assigned security roles to information presented on both screens and reports. “Our team was able to focus on solving emerging business requirements, knowing that the delivery of reports was immediate and secure courtesy of the integrated delivery environment,” adds Girvan.

The end result was the implementation of a custom-developed system on a .NET platform with over 100 screens, 58 reports, 30 batch processes, and 14 external interfaces – all delivered within 12 months.

## **Business Benefits**

The new Web-based Integrated Case Management tool gives the Department of Community Services a modern, flexible application that helps it deliver the highest levels of service to citizens of Nova Scotia.

The productivity available with the Microsoft software allowed this solution to be delivered within an aggressive 12 month timeline. "I'm amazed at what we accomplished in a year – it was the busiest and most rewarding of my 30 year career in government. And we've already begun to realize benefits from the application architecture," says Hall.

## **Stable, reliable platform**

The Department of Community Services provides a truly mission-critical service to citizens, many of whom rely on regular payments to ensure their independence and quality of life. By migrating to a flexible and easily integrated .NET platform, the Department has ensured that the system will attain the highest levels of reliability for years to come, and enjoy the support of a broad community of software developers, partners and consultants.

"The transition to .NET was seamless, and without impact to our clients, vendors or service delivery partners. This is a credit to our staff, our partners at xwave, and the reliability of the new platform," says Hall.

System performance has exceeded expectations. DCS needed a system that could handle a large transaction load. With the new system, complex logic to calculate and produce all of the monthly payments is completed in minutes.

The Integrated Case Management (ICM) team worked to ensure that the flexibility of the system wasn't being achieved at the expense of performance. "Many of our 1,000 users are on the system frequently, but the application is incredibly fast. We only need to have one of our Windows Server 2003 web servers in active use at all times," says Girvan.

## **Integrated Service Delivery**

The new application incorporates a highly configurable business rules engine which, when combined with an easy-to-use interface, controls how user-entered data is captured and managed within the system. In addition to strengthening data integrity and providing a better user experience, this facilitates a more consistent application of policy across service delivery streams. The end result is more consistent eligibility and entitlement determinations for clients, and improved client outcomes.

"Improving the user experience and improving the data capture process has allowed us to deliver better, more consistent service to our clients who depend on DCS services," adds Hall.

## **Enhanced usability**

One of the most powerful facets of the newly designed system is the configuration architecture. In addition to the business rules engine, a robust codebook and corresponding code filter rules provide DCS with the ability to implement new service delivery offerings with minimal effort. The ability to use Ajax controls within the .NET development environment promotes an enhanced user experience, by improving the responsiveness of the user interface and the efficiency of client-server communications (for example, invoking service-specific business rules or code filtering). As a result of the flexible system architecture, DCS has already been able to implement 2 small new programs, largely through configuration.

## **Compliance with regulations**

The easy transition to the .NET environment ensured that the Department of Community Services met its deadline to become compliant with new accounting measures. The complex security architecture supported by the .NET platform enabled the ICM system to support improved segregation of duties. And payments can be routed automatically for approval, based on a flexible payment threshold amount mechanism.

"The .NET-based solution helped us build in security and control measures that ensure compliance to standards throughout the process," adds Hall.

## **Microsoft Visual Studio 2005**

Microsoft Visual Studio 2005 is the world's most popular development environment for designing, developing, and testing next-generation Windows®-based solutions and Web applications and services. By improving the development experience for Windows, the Web, mobile devices, and Microsoft Office, Visual Studio 2005 helps organizations deliver a variety of solutions more productively than ever before. Visual Studio Team System expands the product line with new software tools that enable greater communication and collaboration throughout the development life cycle. With Visual Studio 2005, businesses can deliver modern service-oriented solutions more efficiently.

For more information about Visual Studio 2005, go to: [www.msdn.microsoft.com/vstudio](http://www.msdn.microsoft.com/vstudio)

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For more information about Nova Scotia Department of Community Services products and services, call 877-424-1177 or visit the Web site at: [www.gov.ns.ca/com](http://www.gov.ns.ca/com)

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