Florida State Agency

Modern Systems performs automated modernization of Florida State Agency mainframe Natural/ADABAS applications to Microsoft Windows .Net C#/SQL Server in 5 months
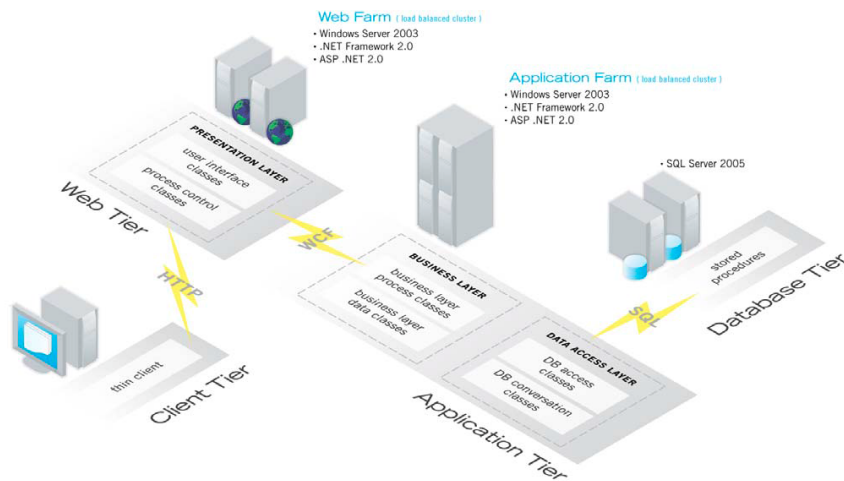
Challenge:

Retire use of mainframe by two production applications as quickly as possible

Solution:

Modern Systems DB-Shuttle™ Automated Modernization Technology, patent pending

Success:

Full refactoring from ADABAS to SQL Server and Natural to C# deployed in a Microsoft Windows .Net environment

Key Benefits:

· Native web based processing improves access

· Lower maintenance costs

· Enhanced flexibility for future changes

· Improved data integrity

· No manual changes applied to any code

· Retained dual database updates and retrievals to ADABAS and DB2

The Modern Systems ADABAS modernization includes the generation of a new relational database to replace the functionality, multiple-occurring fields and groups, and other data element structures that are currently part of the ADABAS inverted list database.

A Florida State Agency mandated in 2011 that their mainframe needed to be retired due to the increased costs associated with mainframe maintenance. Two of their primary applications and associated databases needed to be removed from the mainframe: an internal facing registration system and an external facing system for communicating with the general public and other divisions of the executive branch State agencies. The target platform needed to be free of expensive legacy licensing and adaptable to modern technologies. The chosen platform for refactoring was Microsoft's .Net environment with C# as the application language and SQL Server housing the database.

The timeframe available for this modernization project was limited and delivery had to be scheduled around the legislative sessions. Modern Systems began the assessment phase in October of 2011 and delivered the final refactored application and database in March of 2012. The public launch occurred seamlessly and the end users continued to interact with the system in the same way they have always done. The modernized system is functionally equivalent and runs in a more efficient manner on the new platform.

Schedule Limitations Demand Fast Modernization

The Florida State Agency needed a solution that could be deployed within the very limited time frame between legislative sessions. Using the Modern Systems automated refactoring process it was possible to meet this requirement. The truly automated process allowed Modern Systems to retrieve the current source code and database structure, determine if there were any missing or unused components, and then refactor it to the target platform with the click of a button.

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The collection and review phase is performed as part of the Portfolio Analysis activities. The analysis determined that there were a total of 1,886 components in the legacy Natural/ADABAS systems. Of these, only 1,057 components were in use. Reducing the scope of the project allows Modern Systems to control the costs and focus efforts on the elements of the system that are actually being used. This positively impacts the length of time it takes to perform a modernization and reduces the cost of the project because resources are not used for elements that are not relevant.
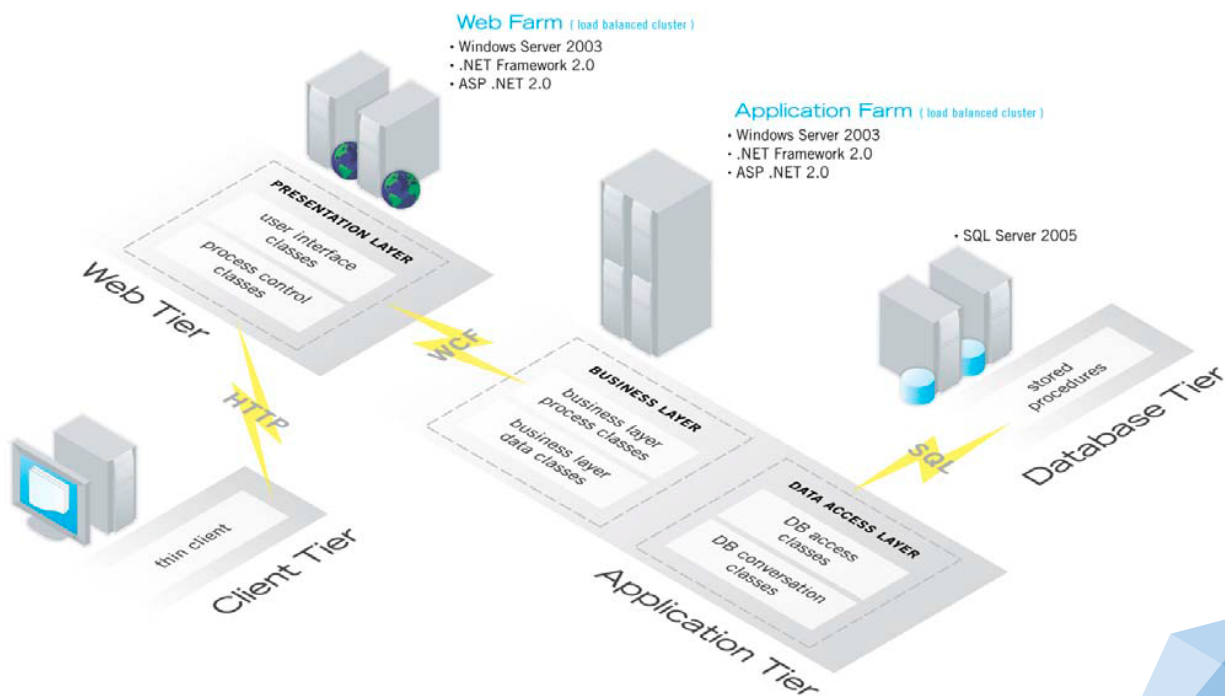
The analysis phase is fundamental to the success of an automated modernization process. Missing components are identified and brought into scope which in turn brings other elements under the microscope for further examination. The time invested at the beginning of the project made it possible to deliver the refactored systems in five months.

Transform to SQL Server & Integrate DB2

The assessment phase highlighted a process unique to the setup - the two applications to be refactored performed dual database updates and retrievals to both ADABAS and DB2 databases on the mainframe. The applications needed to continue to perform the dual updates in the new environment.

Modern Systems created a new module within the DB-Shuttle software to accommodate this unique environment. The mainframe based DB2 database and data was refactored to a Windows version of DB2. The applications were directed to use the new UDB DB2 database. The refactoring process remained automated even while adapting to a new challenge.

The ADABAS database and data was automatically modernized to a relational SQL Server database. The new C# code natively processes against the SQL Server database in the .Net environment. The new relational database is managed via the Microsoft tools associated with the Server and the new code is managed in the .Net framework.

Web Farm (load balanced cluster)
- Windows Server 2003
- .NET Framework 2.0
- ASP .NET 2.0

Application Farm (load balanced cluster)
- Windows Server 2003
- .NET Framework 2.0
- ASP .NET 2.0

- SQL Server 2005

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Web-Based Access Improves Interaction

The publically available application continues to be accessed via a website and retains the same look and feel as the legacy system. On the new platform future development can include taking advantage of improved visual tools to enhance the user experience. The other application, which was used internally, is now accessed via a web portal. It retains the same look and feel as the legacy mainframe application but uses a web browser for access. Retaining the look and feel during the modernization reduces any end user retraining for smoother transitions.

Future enhancements can now be made to the visual interface of both applications. With the power of the .Net framework, the technical teams at the Florida State Agency can concentrate on improving the applications without being concerned about the limitations of a legacy mainframe framework.

Deployment Successful, Extended Support

The newly refactored applications were deployed in March, 2012 during a break in the legislative session. Modern Systems remained available for the next four months to ensure that any anomalies not discovered during testing were addressed promptly. Minor issues such as field color changes were quickly corrected.

The Florida State Agency now has access to a quality solution with an n-tier architecture that is easy to maintain and performs well in the new .Net environment. The IT teams have full control over the current source code and are free from any further mainframe licensing or proprietary code. The Modern Systems solution placed the Florida State Agency in complete control of their future direction.

About Modern Systems

Modern Systems has supported global enterprises for over 28 years, offering state-of-the art services that exploit automation for transforming legacy applications and databases into modern technologies using patent-pending automated refactoring, transformation, and replatforming technologies (DB-Shuttle® & eav® suite, ATP®). Modern Systems' Application Portfolio Management (APM) solutions and Application code understanding range from Portfolio Analysis of existing IT environments, enterprise field expansion, and COBOL/Natural workbenches to automated documentation tools.