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Case Study

Visual Basic 6.0 to VB .Net Technology Migration

“Case Study - VB Technology Migration”

Business Requirements

Application migration projects are undertaken by enterprises in order to gain better control of business processes, to improve business efficiency, and to increase their competitive advantage. Organizations typically embark on application migration projects as part of new application implementation, or to phase out existing legacy applications.

This case study present show ODA proactively assisted a US Insurance company with global presence, with Visual Basic 6 (VB6) to VB .NET migration. In 2006, ODA approached the client to discuss the fact that Microsoft was taking away all support for VB6 by the end of 2008. To mitigate that exposure, the client asked ODA to assess risk on an application by application basis, make recommendations, and implement those recommendations.

Scope

The client wanted ODA to do “vanilla” migration of its VB 6.0 applications to VB .NET. The client wanted its applications to be migrated, but also wanted that the business logic and the architecture of the applications should remain the same, so that neither should there be any logical and major behavioral change for the users of the applications nor should there be any need for providing training to the users.

The client wanted their applications to be converted from VB6 to VB .NET, providing them with fully functional, ready-to-deploy applications quickly and cost-effectively. Transforming existing Visual Basic applications to the more efficient and multiplatform .NET framework not only provides better security but also lets leverage the many new capabilities of .NET. Moreover, it would help them keep pace with Microsoft as they had officially announced its plans to withdraw support for VB 6.0. Here is the information about some important projects and components.

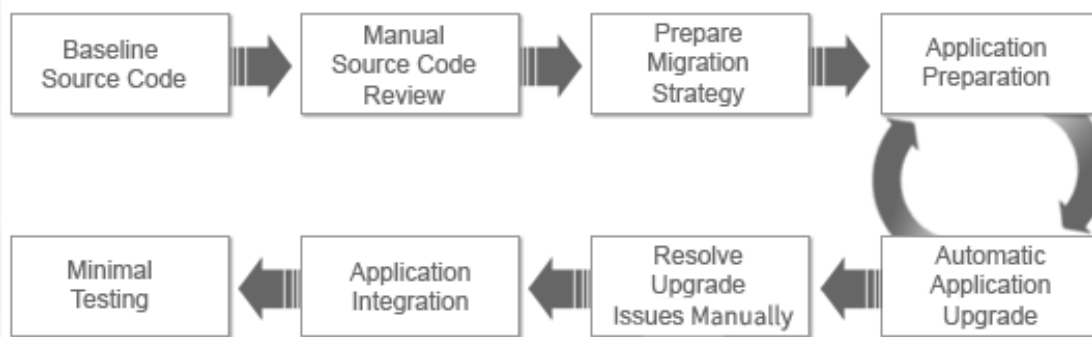
S. No	Application Name	Design Lines	Code Lines	Forms	Classes /Modules
1	AL/VAL 98	33,125	55,300	31	13
2	MAST	4,580	11,515	19	7
3	Quote	10,214	18,989	24	7
4	TradUtils	10,918	15,518	31	12
5	BWL	17,165	13,282	14	1
6	Riders	9,619	12,177	12	9
7	Traditional Reinstatement	2,446	5,879	11	20
8	Advance Payment	3,515	5,600	10	8
9	Interest Sensitive Reinstatement	4,199	364	14	1
10	VLI Simulator	7,053	6,098	10	2

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11	PUA Accumulations	7,752	5,552	8	3
12	Ultimate Premium	12,584	4,475	9	1
13	Loan	3,294	7,712	5	4
14	Surrender	1,586	19,871	4	1
15	GAAP	963	299	1	1
16	ETS	5,129	12,754	8	14
17	PruServ Lite (FK100v32,FK108v32,FK318v32)	609	11,299	3	40
18	AMP with Components	6,856	15,892	36	41
19	CaseNavigator with Components	7,832	38,636	34	84
20	Common Components	4,031	12,353	22	33

ODA Approach/Methodology

ODA did a sophisticated analysis to prepare for the migration. This included performing inventory analysis, determining the degree of impact for each application, and performing a gap assessment for each application. ODA then proposed a strategic migration path for the affected applications. The client had hoped that the VB6 code could be automatically converted to VB.NET. Our experience, however, confirmed that most applications required some manual coding effort. Also, some applications had valid reasons to go to C# or J2EE environments.



ODA's team was led by a Migration Practice Partner with extensive platform migration experience. Other resources used for this project were onshore migration analysts, offshore lead developer and analyst, offshore developers and analysts, offshore technical writer and tester. A team of two Onshore and eighteen offshore resources had completed this migration in a period of 12 months. Technology used for the project included, VB .NET, MS Access 95, .NET MS Framework 2.0, CVS (open-source) and MS Visual Studio 2005 (IDE).

Each application's migration path was considered individually. ODA after analysis came to the conclusion that it would be best to divide the entire migration process into four projects, which were as follows:

- Migration of Calc & Complex suite of applications from Visual Basic 6.0 thick-client to Visual Basic .NET 2005 thick-client. Some major components of this project were replacing DAO and DAO data bindings with ADO.NET, converting printing features of the application to .NET etc.
- Migration of ETS Security Sub-System and PruServ Lite systems for Pruco Command from Visual Basic 6.0 thick-client to Visual Basic .NET 2005 thick-client. Some major components of this project were; Migration of PruServ Lite - Business tier from Visual Basic 6.0 ActiveX EXE / DLLs to .NET

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Assemblies and Migration of PruServ Lite –Presentation tier from ASP to ASP.NET web pages.

- Migration of PWS Reporting - Data fetch component in SEC Reporting Application from Visual Basic 6.0 to Java. Migration efforts included rewriting the 'Visual Basic 6.0 component' in Java for fetching results from SQL Server and populating it in MS Access. This required migrating all the modules/methods, which were used for these database activities.
- ISP is Illustration System for Prudential, it has some agent centric applications like AMP and Case Navigator, which are used by most of the agents and third party brokers. Migration of AMP and Case Navigator applications from Visual Basic 6.0 thick-client to Visual Basic .NET 2005 thick-client was the scope of this project.

ODA Value Added

The project produced its own set of challenges from time to time. Firstly, the data access was not centralized and data access calls were scattered through-out the code. Secondly, the applications used DAO for data access which is not supported on .NET platform. DAO and DAO data bindings had to be replaced with ADO.NET during migration. Thirdly, applications extensively used Printing features available in VB 6.0, whereas .NET does not support Printer object. To handle the printing feature, ODA used Microsoft printing library in projects. Fourthly, a new .NET control PRUMASK was created to fulfill the requirement of VB mask edit control. All above challenges had been smartly handle by ODA team.

Moving Ahead

ODA was able to complete the project on time and within budget. The client was pleased that each application's migration path was considered individually, with special attention paid to each application's environment. Also, there was minimal impact to the user experience.

Success of this project has paved way for a long-term association between the client and ODA. As a result of on-time and successful delivery of the project, the client has awarded ODA with other migration projects.