

Case Study: Vertex abridges the path towards compliance for its Supervisor application using ArtinSoft's Visual Basic Upgrade Companion

How Vertex managed to preserve its technology investment and meet increasing customer demands by moving a mission-critical application to C# with ArtinSoft's highly automated VB to .NET migration solution

Situation

Vertex is a leading global BPO and customer management outsourcing business, with head offices near Liverpool and over 9000 employees across the UK, USA, Canada and India. The company provides a range of transformational service solutions, including outsourcing, technology and consulting to stimulate and facilitate business change and flexibility.

For its mortgage division, Vertex has several applications originally written in Visual Basic 6.0; Supervisor being one of them. It is a stand-alone, in-house developed application used for the configuration and monitoring of the Omega application (see *Omega case study*), which provides support for the day-to-day operations of the mortgage division. Supervisor is a desktop Windows application that connects to Omega directly and with the back end database running on SQL Server 2005.

Pressured by Microsoft's end of official support for Visual Basic 6.0, Vertex found itself looking for a conversion tool that would allow moving the mission-critical systems to the vastly improved .NET framework, since new functionality was becoming more difficult to develop in the existing applications and business continuity and compliance are paramount issues at the moment. In fact, Vertex customers started demanding technology solutions that were 100% supported by authorized providers, in an effort to avoid compliance issues with some of the most widely accepted regulatory standards in the finance industry.

Customer Profile

Leading global BPO and customer management outsourcing business.

Business situation

Pressured by the end of official support for Visual Basic 6.0, Vertex found itself looking for a conversion tool that would allow moving the mission-critical systems to the vastly improved .NET framework, since new functionality was becoming more difficult to develop in the existing applications, and customers started demanding a technology solution supported by authorized providers to avoid regulatory compliance issues.

Solution

Vertex first selected ArtinSoft for moving the Omega application to .NET. However, a second project followed almost immediately: the migration of Supervisor, an application used for the configuration and monitoring of Omega. The migration to C# of both applications represented a total of almost 800,000 lines of VB6 source code, and it was quickly done using a customized version of the Visual Basic Upgrade Companion tool.

Benefits

For Vertex, the decision of upgrading the Supervisor application translates into several business benefits, including moving away from a legacy development environment and into a fully supported platform. Functional equivalence was achieved in a fraction of the time that would have taken a manual rewrite, and without affecting the original communication between Supervisor and Omega. It also allowed both systems to start user acceptance testing and roll into production at the same time, fulfilling Vertex's initial expectations.

Solution

Vertex selected ArtinSoft to migrate the Omega application (616,000 lines of source code) to C# after a thorough selection process that highlighted ArtinSoft's extensive experience in software migration projects. However, a second project, specifically the conversion of Supervisor (154,751 effective lines of VB6 code) to .NET, was also assigned to ArtinSoft, following a two-week on-site assessment that suggested carrying out the migration through a customized version of the Visual Basic Upgrade Companion tool, plus resources from ArtinSoft's Consulting Services.

About the decision to migrate to .NET, Vertex Technical Consultant Adrian Stanley commented: "The .NET framework offers good support for Windows desktop applications, including SQL Server databases. Specifically, C# was chosen as the .NET language (rather than e.g., Visual Basic .NET) mainly because it had already been used to develop new Omega .NET components, and was the language being used for the Omega migration".

By taking this approach, the Visual Basic Upgrade Companion would replace ADO components and methods by functionally equivalent classes and methods from ADO.NET, using the SQL Client Data Provider included with the .NET Framework versions 2.0 and higher.

Also, COM components would be automatically substituted with native .NET components with equivalent functionality. For those components that were not supported by the Visual Basic Upgrade Companion, the strategy consisted of manual replacements with .NET equivalents, performed after the automatic migration. The resulting code has no runtime dependency on third party components, and the code quality fully complied with Vertex expectations.

As previously mentioned, the Supervisor application interacts with Omega through both ASP pages and the database. ArtinSoft ensured that the migrated .NET version of the Omega application would continue using ASP pages, with .NET COM components powering those pages. In consequence, Supervisor's interaction with Omega's ASP pages was set to remain intact after the migration of Omega was completed, without performing any additional changes.

Benefits

For Vertex, the decision to migrate the Supervisor application with the Visual Basic Upgrade Companion has translated into several business benefits, most importantly, ensuring business continuity by moving away from a legacy development environment and into a fully supported platform.

Moreover, functional equivalence was achieved in a fraction of the time that would have taken a manual rewrite, and without affecting the original communication between Supervisor and Omiga. It also allowed both systems to start user acceptance testing and roll into production at the same time, fulfilling Vertex's initial expectations.

Other factors were highly decisive in ensuring a successful conversion. The testing phase, for instance, was carried out with extreme rigor. "We provided ArtinSoft with a set of manual tests from which to prove functional equivalence", said Sue Craig, Senior Project Manager for Vertex. "They have worked in partnership with us to resolve defects and arrive at a 100% positive result on each of the 4 phased drops into UAT from system test. Our subsequent user acceptance test phase has to date thrown up very few additional defects and these have been easily resolved."

In terms of performance, the migration supposes a positive change from previous scenarios. "Even though performance testing is not yet complete, early indications are that the code is at least as performant as the pre-migration equivalent, and in many cases, performance has improved", affirmed Craig.

As for the database, the migrated .NET version of Omiga continued using the same database schema, so no modifications were necessary to Supervisor's database access code to adapt to a new data schema.

"ArtinSoft has been an excellent company to work with. They have delivered to the majority of the milestones set out in the original schedule and, where issues have arisen that affect the deliverables, they have worked in partnership with Vertex to resolve them in a pragmatic and expedient manner, quickly bringing the timescales back on track", she concluded.