

ASNA Case Study

ASNA Visual RPG paves the path to .NET for Management Control.

By Thomas M. Stockwell

When Management Control, Inc. in Alexander, Alabama decided to distribute its payroll processing services directly to clients, the company knew it could crack several significant bottlenecks. It could speed data entry and lower costs while simultaneously increasing customer satisfaction and thru-put. But as alluring as these goals might be, Management Control faced a number of significant hurdles.

Real Life Challenges

Management Control (www.mcigo.com) first needed a highly secure platform for their payroll application that was easy to use by their clients, directly from the Internet. This required a modern, browser-based interface that was quick to learn, and that could intuitively respond to the demands and timeliness of payroll processing.

Secondly, the company needed to leverage its highly trusted and evolved RPG payroll code – code that contained Management Control's uniquely efficient payroll processes. This fat client application had been developed with ASNA's Visual RPG COM (also known as AVR Classic) product many years ago. Management Control had established the data flows, and many significant algorithms with AVR Classic and the company hoped to reuse as much of this existing work as possible in the creation of a browser-based solution.

Finally, Management Control needed to maximize the skills of its small team of programmers to keep the project on track with a minimum of expense.

For all of these reasons, Management Control chose ASNA Visual RPG for Visual Studio .NET.

At a glance...

Customer Profile

Management Control Inc, is a remote IT managed service provider which manages desktops, servers applications and network devices at client's sites via the internet in a highly secure fashion without making changes to firewall configurations or setting up VPNs.

Situation

Management Control, Inc. is an ISV that delivers enterprise-level services to the small-to-medium sized business community. Their goal was to speed data entry and lower costs while simultaneously increasing customer satisfaction and thru-put.

Solution

Management Control, Inc. used ASNA Visual RPG for Visual Studio .NET to solve their need for a highly secure platform with a modern, browser-based interface, the need to leverage its highly evolved RPG payroll code and maximize the skills of its programmers.

Benefits

ASNA Visual RPG for Visual Studio .NET allows Management Control, Inc. to simplify their IT tasks while offering their customers more choices and most importantly it has sped the thru-put of vital payroll processing.

Products

AVR.NET, DataGate, IBM i, i5, DB2/400, Visual Studio .NET



ASNA Visual RPG for Visual Studio .NET

AVR for Visual Studio .NET (AVR) is the only RPG compiler available for Microsoft .NET. It snaps into Microsoft's Visual Studio integrated development environment (IDE). It's a language that makes it easy for traditional RPG programmers to write/modify code using familiar RPG idioms in the .NET ecosystem. AVR for .NET is able to create fat Windows clients, browser (both mobile and desktop), and Web services applications.

AVR gives the programmer the best of all possible worlds for RPG development: an RPG-like programming syntax coupled with all of Visual Studio .NET's User Interface designer, debugger, and deployment tools. This makes AVR for Visual Studio .NET one of the most powerful of programming IDEs available to the traditional RPG programming shop.

But the value of AVR doesn't stop there. AVR applications use ASNA DataGate to connect, usually without any code change to either the IBM i's DB2/400 database, Microsoft SQL Server, or ASNA Local Database. AVR can also connect through .NET's ADO.NET, using SQL, to connect to virtually any SQL-based database.

The Management Control Experience with AVR

How does AVR fit into a small organization's development cycle? Management Control's experiences point to the value of the ASNA experience.

Management Control, Inc. is a Managed Service Provider (MSP) located in Alexander City, Alabama. It prides itself in delivering enterprise-level services to the small-to medium sized business community. It offers a full range of networking, development and support services that includes server and workstation support, network administration, systems management, systems monitoring, and custom programming. A key service is custom and customized application software to provide the competitive advantages to small organizations that can't afford their own programming staff. And it does this with an exceptionally creative staff of only three IT members. How do they do it? ASNA Visual RPG is the key.

A History with ASNA AVR

Back in 2000 Management Control simply wanted to increase client satisfaction by building a fully functional Graphical User Interface (GUI) for its many RPG applications. These RPG applications included the MCIPay Payroll application as well as benefit management, claims adjudication, and document storage applications. All of these applications resided on the IBM i platform.

In those days, the choices for building a GUI on the IBM platform were limited: companies selling 5250 screen scrapers came and went; Object Oriented Programming (OOPs) languages were difficult to learn; and IBM technology support was expensive to maintain. So after a demonstration of ASNA's AVR Classic, Management Control decided to move to the ASNA/Microsoft architecture. The company knew that AVR could do exactly what was needed, and it could also pave the path to Microsoft-based fat client applications.

Technology Evolves: ASNA Responds

Despite using a development environment and programming model quite different from standard green-screen RPG, Management Control found that the RPG conversion process from the IBM RPG language to ASNA Visual RPG was straight-forward for its small staff of programmers. They were already well-versed in IBM RPG and Visual Basic



languages. Over time, Management Control's small professional staff successfully converted all of its applications to an ASNA/Microsoft Windows COM client-server environment, including many programs that were originally built from the days of the IBM System/36 platform.

The results were so successful that Management Control actually moved off the IBM platform, and directly onto the MS Windows environment.

"I had a fat-client version of MCIPay built with AVR Classic up and running within a few months of taking some ASNA's training classes," says Forrest Forbus, Management Control's IT Lead Programmer. Today, ten years later, all of Management Control's applications run on the Microsoft platform, use AVR.

In 2002 Microsoft introduced the .NET Framework and its Visual Studio .NET integrated development environment (IDE). .NET offered many improvements over the old COM model, but perhaps most notable was .NET's ability to abstract away much of the complexity of building browser-based applications.

Because of its affinity with creating browser-based apps, Management Control embraced the Microsoft .NET as a natural and powerful addition to their arsenal of development tools. Still, for their small staff, the challenge to migrate their AVR Classic applications to .NET was judged to be extremely rigorous for such a small staff. And so they waited to see how ASNA and .NET would fare over the long haul.

COM vs. .NET: Where's the Rub?

As any programmer will tell you, there are important and complex technical differences between the classic Windows COM client-server runtime environment and the newer Microsoft .NET framework. They draw upon different libraries of code and they perform differently with different requirements.

For Management Control the siren call of the Internet made the effort of moving to .NET worthwhile. The deployment model alone with browser-based development was quite appealing to Management Control. Being able to offer its customers application access through a browser, where nothing is required on the client but a browser, Management Control would eliminate tons of deployment, licensing, and client PC configuration issues.

Management Control clearly saw the advantages of .NET, but had been waiting to see how ASNA would respond with AVR before it invested its modest resources to a code conversion. Meanwhile many questions remained. How would its customers respond to the opportunities provided by the new Microsoft .NET framework? Was this new framework worth the effort for the benefit of its clients? Would there be a means to "migrate" their AVR code to .NET instead of the difficult task of "converting" the code?

And after careful appraisal and consideration, Management Control decided it was time to work with .NET through ASNA's Visual RPG for .NET product. ASNA does offer an Upgrade Assistant that helps bootstrap the conversion of AVR Classic to AVR for .NET. Alas, the Upgrade Assistant only directly supports conversion from AVR Classic fat clients to AVR for .NET fat clients and Management Control didn't need that—they needed browser-based applications.

However, the lack of automated tooling didn't stop Forrest and his team. They rolled up their sleeves and started coding. While the team's experience with AVR Classic streamlined their move into AVR for .NET, there was still plenty for them to learn. Creating a browser-based version of the MCIPay application was their first formal project.



The Management Control Experience Migrating ASNA Visual RPG COM to .NET

“Reducing the number of fat-clients was not our primary goal,” says Forrest Forbus.

“Our main goal was to more efficiently get the large amounts of data the clients have for processing. We wanted to provide features for our clients to enable them to run their own reports, manage their own employee timesheets, conduct scheduling, and enable certain Human Resources functions through a website.”

The migration/rewrite of MCIPay from AVR Classic to browser-based .NET took some effort, but it proved to be a resounding success; the results delivered visible improvements to Management Control’s clients. Today, data entry no longer requires the more expensive fat client machines. Users running on different hardware platforms can now easily run the MCIPay application through their web browsers. The payroll and HR reports are now readily available, online. Best of all, maintaining the application’s core software requirements no longer requires as much IT attention while the user interface is now “standardized” through the services of the web browser. This reduces training costs and gives greater personnel flexibility in meeting client payroll requirements.

Benefits for Management Control with AVR .NET

Meanwhile, for Management Control, IT tasks have been vastly simplified. Instead of equipping customers with COM-based fat workstations client – with all the related problems of maintenance, software driver distribution, and IT resource support – Management Control now offers its customers more choices in the way it delivers its MCIPay application. Management Control now offers the MCIPay package as an online service, as a stand-alone Windows-based PC product, or as a traditional COM client/server application. Most importantly, the .NET solution has sped the throughput of vital payroll processing, allowing more customers faster access when inputting their payrolls, providing immediate access to reports, and reducing the time required for MCIPay services.

Finally, moving to the AVR .NET has provided significant side benefits to Management Control itself. The AVR .NET solution had reduced costs by greatly reducing requirements for IT staff. “In the past we’ve had as many as seven people in IT, but as employees have left for various reasons, we discovered that we were able to maintain things without rehiring replacements.” This reduction occurred even as the AVR .NET migration project progressed.

Building for the Future with AVR .NET

After Management Control’s experience migrating to AVR .NET, the future looks very bright indeed. According to Forrest Forbus “The goal now is to move everything eventually, but there’s still a lot left. We’ve built a tremendous number of .COM apps with AVR the last 10+ years, so it simply takes time.”

Such is their confidence in the technology of ASNA. ASNA has been a leader in providing technology innovation for IT for 30 years, so there’s no question that AVR will be there to assist. And meanwhile, Management Control continues to meet the challenges of a changing technology landscape, using ASNA Visual RPG for .NET.

About ASNA

ASNA, provides comprehensive and flexible solutions for modernizing IBM i applications to the Microsoft .NET platform. ASNA enables companies to integrate and extend their solutions to .NET, the Web and beyond, while preserving investments in IT and human resources. ASNA solutions are distributed worldwide and used by more than a million end users.



Leaders in IBM i Modernization

We can get you there

ASNA is a Gold Level partner of Microsoft's Partner Network, Microsoft Visual Studio Industry Partner, and an Advanced Tier Member of IBM's PartnerWorld for Developers. ASNA is also a gold level partner of Microsoft's Platform Modernization Alliance.

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