



## Microsoft .NET Mainframe Migration Case Study



**Customer:** County of Marin  
**Web Site:** <http://co.marin.ca.us>  
**Country or Region:** United States  
**Industry:** Government  
**Partner:** Tiburon Technologies  
**Web Site:** [www.tiburontech.com](http://www.tiburontech.com)  
**Partner:** Micro Focus  
**Web Site:** [www.microfocus.com](http://www.microfocus.com)

### Customer Profile

Marin County is located across the Golden Gate Bridge from San Francisco within the vibrant Bay Area. About 85 percent of the land has been preserved as parks, open space, tidelands, and protected agricultural land.

### Software and Services

- Microsoft Server Product Portfolio
  - Microsoft SQL Server 2005
  - Windows Server 2003 Enterprise Edition
- Technologies
  - Microsoft .NET Framework

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## County Government Cuts Costs 91 Percent with Mainframe-to-.NET Migration

“Migrating our existing code from the mainframe to .NET fit our long-term strategy perfectly. We completed the project quickly and cost-effectively, and the result is a solution that we can easily see using for the next 10 years.”

Dave Hill, CIO, County of Marin

*The mainframe for the property tax system in Marin County, California, was out-of-date, expensive to maintain, and tough to integrate with other systems. So, the county migrated its existing COBOL code to an environment running Windows Server® and the .NET Framework. Costs were cut by 91 percent, customer support and business application development are up, integration and extensibility have been enhanced—and the county didn't have to retrain a single worker.*

### Business Needs

Marin County, California, is home to more than 250,000 people living in one of the more affluent counties in the United States. The real estate is valuable—assessed at more than U.S.\$55 billion—and the property tax revenues derived from that real estate provide more than \$700 million to help fund county and state budgets.

With so much at stake, it was crucial for the government of Marin County to manage its property tax system in the most efficient way possible. But the 20-year-old IBM mainframe technology handling the job with a custom,

COBOL-based application, was showing its age. When business analysts needed reports to understand, for example, the effect of changing real estate values on school funding, the IT department had to engage in the laborious process of taking data offline, transforming it into a format that could be analyzed, and running the report. Writing new reports to meet new requirements could add days or weeks to the process.

Personnel were dedicated to maintaining arcane mainframe-to-server connections and mainframe procedures, personnel who could otherwise have been dedicated to customer



support or other functions with added value to the county. The property data in the system was needed by an increasing number of departments and agencies throughout the county—for example, public safety, zoning, planning, permits, and library—but integrating the mainframe with the systems of those other departments, as well as with the county's SAP-based enterprise resource planning software, was a cumbersome process. Integrating the system with Web services was equally difficult.

The county was also aware that the generation of mainframe infrastructure staff was retiring and that new recruits were far more likely to be trained in the Microsoft® .NET Framework, an application foundation that the county uses.

## Solution

With the lease on the mainframe coming up for renewal, and with a new lease costing twice as much, county managers knew it was time to consider their options. A new mainframe wouldn't address the needs for better integration or lower cost. The only commercial, off-the-shelf (COTS) application for the Windows Server® operating system wasn't as sophisticated as the county's existing system. The county considered rewriting its code from scratch for Windows Server, but decided that the investment wasn't cost-effective, given that the county was satisfied with the functionality of that code.

Instead, Marin County decided to migrate its existing COBOL code to the .NET Framework and Windows Server 2003, and its Computer Associates Datacom database to Microsoft SQL Server® 2005 data management software, in a process known in the industry as "platform modernization." To accomplish this, it turned to Tiburon Technologies, a

provider of legacy systems modernization and support, based in Independence, Ohio. Tiburon implemented the migration using its own automated tools and processes, plus Micro Focus products including the Micro Focus Net Express with .NET COBOL development environment for Windows®.

To prove the practicality and effectiveness of the Tiburon and Micro Focus solution, the county had Tiburon implement a proof of concept in which it converted the county's previous-year tax bill process and virtually printed the bills. The success gave county managers the confidence to move ahead with the broader, production-level migration.

Migrating the mainframe COBOL code to Micro Focus COBOL and getting the system into production took from September 2007 to August 2008. Tiburon's automated tools provided an automated conversion of the existing legacy application, including the existing user screens. The process of migrating and validating the database included the conversion of hundreds of tables with millions of rows of data.

## Benefits

Marin County has achieved its stated aims—and more—by migrating its mainframe-based property tax system to the Windows Server operating system. It is now positioned to take advantage of the .NET Framework, Microsoft SQL Server 2005 data management software, the Microsoft Visual Studio® development system, and Web services capabilities.

The system now can be integrated not only with other systems throughout the county—boosting accuracy and efficiency by enabling all agencies to work from a single database—but also with state and federal systems. The

county can integrate new services, such as geographic information system data.

By replacing the IBM mainframe with two Dell 2950 dual processor, dual core computers, the county has reduced its hardware, software, and maintenance costs by 91 percent. The county has redeployed the employees who formerly worked on mainframe support, boosting customer service and business application development with the freed resources. The nightly processing window has been cut in half, from four hours to two.

The process of migration was also highly efficient. "Because we chose to migrate our existing COBOL code, rather than to rewrite code, 'scope creep' was never an issue," says Rwna Holaday, Division Director, Systems and Applications, County of Marin. "Testing was also simplified, since the existing system provided an exact baseline measure against which we could measure performance and quality."

By migrating the existing interface screens without change, the county eliminated the need to retrain users on a new system. "We had zero retraining costs and no grumbling from our users," says Ron Matteson, Principal Systems Analyst, County of Marin. "If we hadn't told them about the migration, they wouldn't have noticed it."

"Migrating our existing code from the mainframe to .NET fit our long-term strategy perfectly," says Dave Hill, CIO, County of Marin. "We completed the project quickly and cost-effectively, and the result is a solution that we can easily see using for the next 10 years. We preserved our current functionality, while gaining the ability to add new services, and integrate with other systems, when and as it suits us."