



## Microsoft Mainframe Migration Customer Solution Case Study



**Customer:** City of Miami  
**Web Site:** [www.miamigov.com](http://www.miamigov.com)  
**Customer Size:** 700 employees  
**Country or Region:** United States  
**Industry:** Government  
**Partner:** Idea Integration

### Customer Profile

The City of Miami, known for its cultural and ethnic diversity, is the largest municipality in Miami-Dade County, Florida. According to the 2000 census, it has a population of 362,470.

### Software and Services

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

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## Miami Cuts Costs by More Than 50 Percent, Maintains Performance, with Move to Windows

“The bottom line is that we do a better job of saving lives because we migrated our system from the mainframe to .NET. And that’s what it’s all about.”

Kevin Burns, Information Systems Manager for the City of Miami Fire-Rescue Department

*The mainframe-based emergency fire and medical dispatch system in Miami was increasingly difficult and costly to maintain, and to expand with new capabilities. So the city migrated its existing software to Windows Server® and the Microsoft® .NET Framework. Now, the city dispatches emergency services without loss of speed or performance, while it saves U.S.\$350,000 a year—more than 50 percent of previous costs—on maintenance.*

### Business Needs

The City of Miami’s computer-aided dispatch (CAD) system for fire and medical emergency services was state-of-the-art when it was first deployed 20 years ago. Over time, Miami’s population has grown, the demands placed on that system have grown, and the expectations for how that system should integrate with other systems—in and beyond Miami—to benefit its residents have grown as well.

The system, however, had reached the limit of its ability to integrate with new systems and functionality in a cost-effective and timely manner.

It was based on a Unisys NX700 mainframe that was increasingly time-consuming and costly to maintain. “The cost of maintenance on the mainframe was a huge issue,” acknowledges Kevin Burns, Information Systems Manager for the City of Miami Fire-Rescue Department, at a cost of about U.S.\$800,000 per year.

Beyond the cost of maintenance, the city was finding it increasingly difficult to find people trained in the proprietary COBOL code in which the custom solution had been written. “Our programmers and support staff were retiring,” says Burns. “We were losing

them quickly. Our ability to maintain the system internally was dwindling.”

For an emergency dispatch system, availability is a must. The city’s CAD system provided availability almost at the level of “five-nines”—99.999 percent—but at a cost: The city had to bring the system down for up to four hours each month for scheduled maintenance.

Nor did the system have the agility that the city increasingly needed. The proprietary code and hierarchical DMSII database made it difficult to share information with other city and regional services, and to adopt time-saving—and potentially life-saving—technologies that had emerged over the past decade.

## Solution

The city wanted to move off the mainframe, but commercial, off-the-shelf software couldn’t match the functionality of its custom code. Rewriting that code for a modern platform would have been a two-to-five year process with enormous costs. The city needed another way.

The city found that “other way” and now runs its CAD system in a cost-effective, agile environment based on PC hardware, the Windows Server® operating system, and the Microsoft® .NET Framework. Instead of rewriting its CAD system—with 80 applications, 110 online screens, and 180,000 lines of code—the city decided to adopt a technique called platform optimization, in which the existing code was preserved and moved to the new environment. The migration took just six months.

To accomplish this, the city turned to Idea Integration, a Microsoft Gold Certified Partner

based in Jacksonville, Florida. To confirm the value of platform optimization for the city, Idea Integration conducted a proof of concept in which it migrated several CAD modules to Windows Server and the .NET Framework in two weeks, and demonstrated the modules on the new platform with no loss of functionality.

Idea Integration then implemented the full migration using its own automated tools and processes, including the XGen Micro Focus COBOL Generator, to convert the city’s proprietary Unisys COBOL code to Micro Focus COBOL code that runs on Windows Server and the .NET Framework. It migrated the DMSII hierarchical database to a relational database in Microsoft SQL Server® 2005 data management software. And it migrated the user interface screens to Web-based Microsoft ASP.NET screens through the use of its ClientView product. The city chose to retain the familiar screens to eliminate the need for retraining on the new system.

In place of the legacy mainframe, the city now runs its migrated solution on a pair of clustered 64-bit Dell PowerEdge 900 computers—each with four dual-core processors—plus a third server for backup and disaster recovery.

## Benefits

The City of Miami has accomplished its key goals of reducing system costs and increasing agility while maintaining previous functionality by migrating its legacy mainframe computer-aided dispatch system to Windows Server and the .NET Framework.

After four months of experience with the solution in production, Burns estimates that the city will save more than 50 percent of its former annual maintenance budget—

returning \$350,000 to city coffers—by migrating off the mainframe. And developers and support staff are readily available for Windows Server and the .NET Framework, compared to the diminishing resources for Unisys COBOL.

Beyond cost savings, the far greater benefits from the migration are those that result in faster and better emergency service to the residents of Miami. For example, the migrated solution maintains near the 99.999 percent scheduled availability of the mainframe but, without the scheduled downtime needed for the mainframe, total uptime is increased.

And because of the failover clustering and disaster recovery architecture of the migrated solution, compared to the single point of failure for the mainframe, the new solution can minimize or avoid disruptions that could bring down the legacy system.

The new system is faster and easier to update than the legacy system, which means that the city can update it more frequently to meet new needs. It’s also easier to integrate with third-party software to enhance customer service. For example, the city integrated a third-party application that provides automated support for call center workers, enabling them to respond to callers more efficiently—which should improve turnout and arrival times. Burns also envisions integrating the system with automatic vehicle location, global positioning, and external emergency dispatch systems.

“The bottom line is that we do a better job of saving lives because we migrated our system from the mainframe to .NET,” says Burns. “And that’s what it’s all about.”