



Developer Revitalizes Approach and Boosts Scalability at Technology Center

Customer: Total Computer Group
Web Site: www.totalenforcement.com
Customer Size: Approximately 50 employees
Country or Region: United States
Industry: Professional services

Customer Profile

Melville, New York-based Total Computer Group provides IT [software](#) solutions and support services for numerous law enforcement jurisdictions throughout the United States and beyond.

Software and Services

- Microsoft Server Product Portfolio
 - Microsoft SQL Server 2008 Enterprise
- Microsoft Visual Studio
 - Microsoft Visual Studio 2008 Team Foundation Server
- Services
 - Microsoft Technology Centers
- Technologies
 - Microsoft .NET Framework 3.51

For more information about other Microsoft customer successes, please visit: www.microsoft.com/casestudies

“The MTC brought us to a level that we don’t believe we could have ever otherwise reached. Our company will never be the same, and our customers will benefit from our MTC experience forever.”

Al Perez, Chief Software Architect, Total Computer

Total Computer Group develops software for the law enforcement industry and wanted to ensure the scalability of its Total Enforcement solution so that it could confidently approach larger municipalities. The company attended a Proof of Concept workshop at a Microsoft® Technology Center, which helped it increase the solution’s scalability, improve its developers’ productivity, and change its overall approach to software development.

Business Needs

Since 1988, Total Computer Group has provided professional services and solutions to help the law enforcement industry run efficiently. The company’s Total Enforcement solution is a state-of-the-art computer-aided dispatch and records management system that includes modules for use when officers respond to accidents, conduct field interviews, make arrests, and handle other law-enforcement scenarios. Officers and other law-enforcement personnel also can use Total Enforcement to send person, location, and vehicle alerts; reproduce state-mandated forms; and maintain detailed audit trails about system use—all in real time.

Total Computer—a Microsoft® Gold Certified Partner—built Total Enforcement on the Microsoft .NET Framework 3.51 to take advantage of the stability, rapid application development, use of Web services, and interoperability with other systems that the framework offers. “The law enforcement industry is overrun with legacy technologies, and there’s a certain reluctance to change,” says Al Perez, Chief Software Architect for Total Computer Group. “With the .NET Framework, we saw ease of integration—with peripheral devices as well as with all the older systems—that no other platform can offer. That flexibility helps us offer greater value to our customers.”

Of the numerous law enforcement customers that adopted Total Enforcement for its comprehensive functionality, most were smaller entities. When Total Computer was presented with several opportunities to sell to larger municipalities in 2009, the company sought assurance that Total Enforcement could support the scalability and performance needs of larger organizations. "We wanted to ensure that our solution had the ultimate scalability so that we could walk into those customer engagements with utter certainty," says Perez. "So we needed to learn everything we could about the best methods for designing and implementing for a highly scalable environment."

Solution

In April 2009, Total Computer accepted an offer from Microsoft to attend a Proof of Concept workshop at the Microsoft Technology Center (MTC) in Silicon Valley, California. "We were thrilled to have access to millions of dollars worth of equipment and to the group of unbelievably talented Microsoft architects and developers who work there," says Perez. "We knew that we could learn a lot from those people."

During the workshop, Total Computer delved into the world of 64-bit computing. "We didn't think that moving to 64-bit computing would resolve our scalability concerns, but we saw immediate results," recalls Perez. "Previously, we'd experienced occasional 'out-of-memory' exceptions in our development, but those disappeared altogether as a result of the changes we made at the MTC."

The company also learned how to calculate hardware needs based on database size, transaction levels, and other criteria. "The MTC architects taught us innovative ways of

approaching many different areas beyond increasing our scalability, and we were able to immediately apply all that information to our development work," says Perez.

During their week at the MTC, members of the Total Computer team also worked with MTC architects in a series of Architecture Design Sessions. "We stepped out of the lab environment to explore ways to use various Microsoft technologies to advance our solution," says Perez. For example, MTC architects showed Total Computer the advantages of Microsoft SQL Server® 2008 Enterprise data management software and Microsoft Visual Studio® 2008 Team Foundation Server, plus ways to handle data mining, attach binary files, and conduct load testing.

Benefits

Total Computer Group left the MTC with not only improved scalability for Total Enforcement, but also a new middle tier for its solution, best practice methodologies for current and future development and deployment, and the confidence to more aggressively pursue larger customers. The product also now is certified for use with the Windows® 7 operating system. "The MTC brought us to a level that we don't believe we could have ever otherwise reached," says Perez. "Our company will never be the same, and our customers will benefit from our MTC experience forever."

Superior Performance and Scalability

Total Computer significantly improved its solution's performance and scalability with guidance from MTC architects. "We were able to achieve a 19 percent increase in query times at the MTC, along with an exponential increase in scalability," says Perez. "And thanks to

the insight we gained at the MTC, we're now able to build better products using the most advantageous technologies and the best development practices."

Improved Developer Productivity

The company exponentially increased its rate of development after applying the knowledge that it gained at the MTC. "I encouraged my team of talented, dedicated developers to absorb all that they could from the MTC architects' decades of experience," says Perez. "Between the methodologies that we learned and the technologies that we embraced, we've increased our developer productivity, which accelerates our time-to-market and cuts our costs."

Increased Technical Knowledge

The Total Computer team attained a higher level of expertise at the MTC through hands-on experience with new technologies and hardware configurations. "As a developer, the trip to the Microsoft Technology Center changed the game for me," says Greg Loehr, Developer/Team Leader for Total Computer. "I gained insight that has been invaluable in the months following, and I've applied them in our efforts here. I went into the experience feeling like a developer with some basic architecture knowledge. I left feeling like more of a software architect"

Reduced Risk, Increased Confidence

The company believes that it can ensure successful customer engagements as a result of its MTC experience. "We've definitely mitigated risk," says Perez. "When I talk to customers about scalability, I now can offer comprehensive knowledge and more in-depth consulting."