



## Supply Chain Software Provider Extends Market Opportunities with Windows Mobile–based Sales Application

### Overview

Country/Region: United States  
Industry: IT

#### Customer Profile

Expertek provides software solutions in the manufacturing and wholesale distribution markets, offering products and services that streamline key processes unique to supply chain markets.

#### Business Situation

Expertek wanted to develop a mobile application that would allow salespeople to capture orders in the field and upload them to the home office, replacing inefficient manual processes.

#### Solution

Developed for Pocket PCs, MobileWorks captures customer data on a Microsoft® SQL Server™ 2000 Windows® CE Edition database on the device and then uploads it via Web services to a SQL Server 2000 database on the business system.

#### Benefits

- Reduced development time
- Uses existing code, skills, and assets
- Captures market opportunities
- Extends existing infrastructure
- More than 90 percent code reuse

“Using MobileWorks running on Windows Mobile-based Pocket PCs, our sales force is more productive and can handle substantially more accounts without increasing our headcount.”

Doug Ross, President, AristoCraft Supply

Expertek develops applications that help extend supply chain enterprise resource planning (ERP) solutions—automating and simplifying processes key to the supply chain industry. For suppliers with a mobile sales force, Expertek developed MobileWorks for the Pocket PC which enables salespeople to capture data on Pocket PCs running Microsoft® SQL Server™ 2000 Windows® CE Edition (SQL Server CE) and later upload orders to the back-end SQL Server 2000 database. MobileWorks was developed with the Microsoft .NET Compact Framework using Microsoft Visual Studio® .NET. By developing in the Microsoft Windows Mobile™ environment, Expertek was able to use existing skills to extend its infrastructure and reuse over 90 percent of their code to develop a desktop version of MobileWorks and quickly capture market opportunities.

## “When it came time to develop MobileWorks, Pocket PC was the clear choice”

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Internet Services Manager

Expertek

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### Situation

Midmarket segment businesses, as well as growing wholesale distributors and suppliers, rely on Expertek to develop applications that automate and simplify key processes in the supply chain industry—helping them compete in a climate where distributor margins have been compressed, replenishment has lengthy and uncertain lead times, and where customers expect a level of service unheard of a decade ago.

For instance, distributors and suppliers with a mobile sales force often rely on inefficient manual procedures—writing orders on paper and faxing them to the home office at the end of the day to be input into an ERP solution.

Expertek saw an opportunity to provide a mobile solution that would enable salespeople to take orders in the field and submit them over the Internet, replacing existing manual processes.

### Solution

Expertek developed MobileWorks, a business solution that enables salespeople to connect to the business system, retrieve information about customers and products, and store that information in a database residing on a mobile device. They can take orders in the field, and at the same time, send orders to the business system to be processed to completion.

Built on Windows Mobile software with the Microsoft® .NET Compact Framework using Microsoft Visual Studio® .NET development system, MobileWorks was developed in just four months. After attending a Microsoft-sponsored, two-day .NET training event for developers, Expertek was sold on developing

its solution for Microsoft Windows Mobile™-based Pocket PCs.

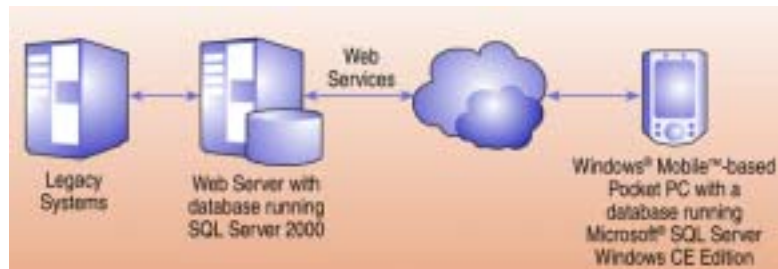
“When we attended the event, we weren’t even thinking of doing this. We went just to get exposed to .NET,” says Tucker MacGregor, Internet Services Manager at Expertek. “But when it came time to develop MobileWorks, Pocket PC was the clear choice.”

Expertek already relied on Microsoft technologies for its custom development, but the ability to easily port applications also placed high on its priority list when choosing a platform for its mobile solution because by easily porting applications, Expertek realized that it could quickly capture a larger customer market at a low cost.

“We considered Palm and Pocket PC, and it seemed obvious to us who was going to win that battle and where we were going to get the most customers, so we chose Pocket PC,” explains MacGregor.

Early in development, the Expertek team used Visual Studio .NET 2002, but they were right on the cutting edge. Thanks to a universal subscription to the Microsoft Developer Network (MSDN®), the development team had access to beta versions of Visual Studio .NET 2003. With this software, they were able to develop a grid interface, in which a user could select a row within the grid and transition to an edit mode. And although there was a learning curve, the team made good use of the familiar, easy-to-use tools in Visual Studio, including the emulator and the debugger, to quickly develop a viable mobile solution where performance was not an issue.

## MobileWorks architecture



“Even when you go to an actual device, you can still debug in Visual Studio while the application is running, which is terrific,” says MacGregor.

Using MobileWorks, salespeople can now capture data on a Pocket PC running Microsoft SQL Server™ 2000 Windows® CE Edition (SQL Server CE). Then, at any point, with any connection to the Internet, they can synchronize the device. Using Web services, the device connects to a SQL Server 2000 database on the Web server and transmits data to and from the Pocket PC. When an Internet connection is available, master file information is periodically downloaded to the Pocket PC, keeping it synchronized with the business system. Users can then upload the day’s orders to the office back-end system for processing and fulfillment.

### Benefits

With Windows Mobile software and Visual Studio.NET, Expertek was able to take advantage of comprehensive Microsoft resources and tools to develop a mobile business solution that not only extended its existing technology assets and infrastructure, but allowed the company to reuse code to develop a desktop version of MobileWorks and capture market opportunities much more quickly.

### Access to Comprehensive Resources

The Expertek developers relied on Windows Mobile and Microsoft development resources. A Microsoft-sponsored .NET developer training course gave Expertek developers an introduction to developing with .NET connection software.

Expertek’s universal subscription to MSDN provided the development team with early access to the beta version of Visual Studio .NET 2003. For technical support, the team relied on the information-rich newsgroups on MSDN.

In addition to relying on Microsoft’s world-class resource for developers, Expertek found useful the error-reporting and error-handling tools in the .NET Compact Framework.

### Extends Existing Infrastructure

The addition of the MobileWorks application and a Web service extends Expertek’s existing infrastructure.

Using SQL Server CE on the Windows Mobile-based Pocket PCs was a natural choice because Expertek was already using SQL Server technologies with its other custom applications. SQL Server CE synchronizes directly with the SQL Server 2000 database used for back-end data.

“Because we used the Microsoft .NET Framework, we were able to achieve over 90 percent code reuse for the desktop version of MobileWorks. As a result, we saved development time and were able to bring a new product to market quickly.”

Tucker MacGregor

Internet Services Manager

Expertek

MobileWorks extends the rest of the company's infrastructure as well.

“MobileWorks captures the same ordering information that our e-commerce sites capture, so adding the MobileWorks application and a Web service let us easily extend our existing infrastructure to the field,” says MacGregor.

Developing a mobile solution helped customers extend their ERP systems to the field while eliminating manual, time-consuming tasks. With MobileWorks, salespeople can create orders at the client, and then synchronize their handheld at the end of the day.

Developed with integration in mind, MobileWorks enters all orders sent to the back-end into the customer's ERP system. The solution pushes data effortlessly from handheld to front-end to back-end.

Quickly Captures Market Opportunities with Code Reuse

When another customer needed MobileWorks functionality in a desktop version, Expertek was able to deliver very quickly by leveraging its skills, code, and assets.

To port the Pocket PC edition of MobileWorks to a desktop edition, Expertek switched the data access code from SQL CE for the Pocket PC edition to the full-version of SQL Server for the desktop edition.

“Because we used the Microsoft .NET Framework, we were able to achieve over 90 percent code reuse for the desktop version of MobileWorks. In fact, both versions of MobileWorks are compiled from the same code base. As a result, we saved

development time and were able to bring a new product to market quickly. Our customer couldn't have been more delighted,” says MacGregor.

In addition, Expertek wanted to develop on a platform where they could use their existing development skills. They planned to migrate from Visual Studio 6.0 to Visual Studio .NET, and from Microsoft Active Server Pages (ASP) to ASP.NET. “Clearly with the platform transfer ability, we'd be able to use those same skills and same tool sets to develop a new application,” says MacGregor.

AristoCraft Supply, one of New England's largest full service distributors of dry cleaning, laundry, and tailoring supplies, uses MobileWorks and another Expertek solution called CommerceLink.

“MobileWorks lets our sales people enter sales orders and query customer credit, pricing data, and inventory availability in the field. Using MobileWorks running on Windows Mobile-based Pocket PCs, our sales force is more productive and can handle substantially more accounts without increasing our headcount,” says Doug Ross, President of AristoCraft Supply.

## For More Information

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For more information about AristoCraft Supply products and services, call 800-875-0479 or visit the Web site at: [www.aristocraftsupply.com](http://www.aristocraftsupply.com)

## Windows Mobile Developer Customer Solution Case Study

Microsoft offers developers a rich, flexible platform to build innovative applications for Windows Mobile-based Smartphones and Pocket PCs. The Windows Mobile platform offers extensive API support, integrated development tools, and familiar Windows programming models, so developers can use existing code and skills to quickly build and deploy applications. Comprehensive technical support and marketing programs, such as Mobile2Market, also help developers reduce time to market and capture new market opportunities. For enterprise scenarios, the Windows Mobile platform helps developers extend their PC and .NET programming skills as well as existing business systems, conserving time and money.

Start developing today; visit: [www.microsoft.com/windowsmobile/developer/](http://www.microsoft.com/windowsmobile/developer/)

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### Software and Services

- Products
  - Windows Mobile 2003 Software for Pocket PCs
  - Microsoft Visual Studio .NET 2003
  - Microsoft SQL Server 2000 Windows CE Edition

### Hardware

- Microsoft Windows Mobile-based Pocket PC

**Microsoft**