Engineers Synchronize Handheld Computers with Job Management System

CASE STUDY

Telekom Austria
Country: Austria
www.telekom.at

Customer Profile
Telekom Austria is active in two main areas of business. The wireline division comprises telephony, data and Internet on a fixed network while the wireless division includes mobile communications.

Business Situation
Team leaders couldn't contact field service engineers at customer sites in the day to update them about changes to jobs or new jobs.

Solution
IT team at Telekom Austria created a solution based on the Microsoft .NET Compact Framework. Now engineers carry PDAs synchronized with the company's CRM system and receive updates throughout the day.

Benefits
- Synchronization of data
- Improved customer service
- Increased mobility via PDA
- Increase in revenue
- Strengthens brand image

Telekom Austria AG is the largest telecommunications company in the country. Each morning, more than 1,000 Telekom Austria field service engineers set off for work with Pocket PC Personal Digital Assistants (PDAs). Their job orders are synchronized between the PDA and the customer relationship management (CRM) solution. The engineers have access to job information anytime, anyplace, anywhere and can make changes to their daily work schedules. This is leading to increased efficiency and improved customer service. The solution is the largest mobile Microsoft® .NET project in Austria and is based on Microsoft .NET Compact Framework, Microsoft Visual Studio® .NET and Microsoft SQL Server™ 2000 CE. .NET is software for connecting people, information, and systems.

Situation

Getting customer information to field service engineers is fraught with difficulty. Most spend the majority of the day with customers and only pick up information intermittently. This was the case at Telekom Austria where before setting off to see customers, engineers had to go into the office and discuss the day's jobs with their team leaders. Then documents from various systems had to be printed out or filled in to be taken along to scheduled calls with customers.

Apart from a few phone calls with their supervisor, the engineers were out of touch with the business and could only be contacted at certain times. Wolfgang Zwicknagl is Head of the CRM & Intranet Competence Center in the IT division of Telekom Austria in Linz. He explains: "It was almost impossible to slot in emergency jobs. On top of this, a job could not be completed until team leaders had compiled data that was delivered by engineers at the end of each day. This was often not until the next morning.

"Our goal was simple. We wanted to create a system and architecture so that service engineers could organize their work in an efficient and user-friendly way and improve customer service."

Solution

First of all, the company tested a wireless solution, which was linked directly to the company's customer relationship management (CRM system). They tried a connection using GPRS data transfer but soon discovered problems with this approach.

Zwicknagl says: "We quickly realized that a Web browser didn't have the management or diagnostic functions required. What's more, the technology needed for GPRS data transfer, particularly in areas away from large cities, proved very expensive. This wireless version was completely useless in house cellars or below ground level, for example, so we discarded it and started looking for something new.

"Another important factor, based on our experience with the wireless solution, was to separate the database, back-end systems, business logic and GUI (Graphical User Interface) from each other."

Zwicknagl and his team requested bids from technology and architecture suppliers and chose Microsoft. "There is nothing on the market that compares with Microsoft .NET technology," says Zwicknagl.

The company designed and implemented a new solution called SAM (Service Support System Asynchronous Mobile Client). Today, service engineers set off to see customers equipped with a PDA that they synchronize to the Telekom Austria CRM system and receive updates as and when required.

Zwicknagl says: "Today, an order is entered into the CRM system via our call center. This creates a case. Every morning all cases for the next 48 hours are updated so that particular service engineers will always be informed about current case status for the next two days. Following this, the cases are

> "Any company needing to instruct a field force or manage tasks for employees in the field can apply the expertise we have acquired during this project."
>
> – Andreas Rokietowski, Head of Information Technology, Telekom Austria

actioned and completed, and then fed back into the system again for the appropriate back-end processes.

"In the morning the smart client saves all the data on the service engineer's Pocket PC that is needed. The job list containing all this data is co-ordinated by the respective team leaders and dispatchers at Telekom Austria. It includes activities such as the new installation of a telephone line or broadband connection, interference suppression/repair work and also emergencies. Similarly, daily route planning follows on once job scheduling has been optimized.

"Once a job has been completed, all the relevant data such as information on material usage, time taken, and other job details are channeled back to the central system by the service engineer. By using automated synchronization, the team leader is also freed up from the administrative tasks involved in data capture tasks."

The solution is based on Microsoft .NET Compact Framework, the smart device development framework for Microsoft .NET, bringing the world of managed code to devices. It also used Microsoft Visual Studio .NET development system and Microsoft SQL Server 2000 CE, the compact database for rapidly developing applications that extend enterprise data management capabilities to mobile devices. Specialists at Telekom Austria developed the new application for this system using Visual Studio .NET and the C# programming language.

Benefits

Implemented in Just Two Months

The installation and launch of the new solution, based on the Microsoft .NET Compact Framework, took just two months. Andreas Rokietowski, Head of Information Technology at Telekom Austria, is delighted by the speed of implementation. He says: "The greatest challenge was to integrate numerous devices and minimize the quantities of data engineers received.

"At the beginning of the project, we checked that the PDAs were compatible with the performance features offered by the planned solution. They were. We then verified the proposed architecture through a proof of concept. Once this had been verified, our team began the development phase with Microsoft .NET Compact Framework."

Collaboration and Communication Between Principals

The service engineers were thrilled with the solution from the beginning. Rokietowski says: "The new application has been very well received, which is a result of the collaboration between the principals working on the project. In addition, thanks to constant synchronization between the CRM solution and the PDA, we are guaranteed permanent job data and status updates, even in remote areas. The flow of information to the service engineer is seamless. We support the service process end-to-end as far as our customers are concerned."

Reliability, Flexibility and Performance

The new mobile solution has resulted in a significant increase in engineer efficiency. "We are now processing several thousand cases a day for more than 1,000 service engineers in the field," says Rokietowski.

Team leaders are also monitoring, managing and measuring the efficiency of engineers from their office. Rokietowski says: "They see which tasks are being carried out by which engineers at any time and can give them new instructions according to customer needs."

Rapid Assignment of Emergency Call-Outs Improves Customer Satisfaction

Call center workers can now assign service engineers more quickly to emergency call-outs. "This is an immensely valuable feature that has a positive effect on customer satisfaction," says Rokietowski.

Zwicknagl agrees: "In an emergency, engineers can receive updates at any stage in the process in real time. This increases efficiency and enables them to make changes to their work schedules during the day. CRM data is successfully synchronized on the smart client and this is where the innovation lies."

Generate New Services

Rokietowski is delighted that the solution was developed by the Telekom Austria in-house IT team, particularly as it is already generating demand internally and externally. Internally, the company is considering customizing the solution for other back-end systems. Externally, outside organizations are showing interest and have ideas about how they might use it.

"Any company needing to instruct a field force or manage tasks for employees in the field can apply the expertise we have acquired during this project. Operation and support for such a solution would be provided by Telekom Austria. We are a one-stop resource," says Rokietowski.

Ground-Breaking Work

It's the first time such a large group of field employees—more than 1,000 individuals—have relied on Microsoft .NET technology installed on Pocket PCs and servers and it's the largest mobile .NET project in Austria to date.

Gerwald Oberleitner, Systems Engineer at Microsoft, says: "This project highlights the truly groundbreaking work that Telekom Austria and Microsoft have achieved."

Software and Services

Products
- Microsoft SQL Server 2000
- Microsoft Visual Studio .NET 2002

Technologies
- Microsoft .NET Compact Framework