



## INCREASING WAREHOUSE PRODUCTIVITY WITH A SERVICE-ORIENTED ARCHITECTURE

### Challenge

How far a company should go in automating its inventory management is much more than just a question of how much money it can invest in it. Large margins of fluctuation in the day-to-day transfer of goods, a wide range of packaging sizes, and many other variables can make it advisable to use people rather than to automate. But people must also be managed as optimally as possible. GOERING iSeries Solutions has developed a graphical user interface, based on Windows Mobile .NET technology, for mobile radio scanners for inventory management.

### Solution

Using Software AG software, the mobile devices can be linked with any existing warehouse management system using a Service-Oriented Architecture. The iMwarehouse Web services solution can be used when companies want to equip their warehouse employees with handheld devices to increase productivity, performance, and transparency in the warehouse.

### Benefits

- Increased productivity
- Protection of investment in existing warehouse management system
- Ability to customize client GUI for specific company requirements in just a few days
- Bidirectional data exchange between mobile devices and existing warehouse management systems
- Expected Return on Investment realized in less than one year for companies who integrate their legacy systems



GOERING i-Series Solutions, a software company based in Bruchsal, Germany, has many years of experience providing ERP services and offers a range of tools dealing with Microsoft Office and the XML standard, especially for the iSeries world. GOERING has also established another business segment - mobile warehouse solutions - and launched its corresponding iMwarehouse solution in spring 2006.

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**“ApplinX plays a key role in our solution, because it allows us to integrate any existing warehouse-management inventory system without interfering with its programming logic – even those outside the iSeries world.”**

Andreas Göring | General Manager | GOERING iSeries Solutions

### Benefiting from Radio Data transmission

Fully automated warehouses, as if controlled by an invisible hand, are by no means the perfect solution for everyone. Small and medium-sized enterprises, in particular, prefer solutions that offer a high degree of flexibility with a manageable investment.

For enterprises like these, where people still transfer goods themselves, mobile solutions based on radio data transmission promise tangible advantages. For example, regardless of where warehouse employees are located, they receive their orders in real-time and can immediately report back after order fulfillment. Information about incoming and outgoing goods is reported in real-time to the warehouse software, eliminating the need for delayed batch runs that are necessary when using various paper forms. Thus, invoices can be created immediately when an order has been fulfilled and purchase orders can be generated when a product's specific reorder level has been reached. And in terms of ongoing inventory, mobile radio transmission solutions provide the latest overview of the entire warehouse stock. Productivity and transparency increase significantly along the whole value-added chain in the warehouse.

Because of these persuasive advantages “the demand for mobile radio data transmission solutions for warehouse optimization is huge, especially in medium-sized companies,” according to Andreas Göring, General Manager of GOERING i-Series Solutions. The software company, based in Bruchsal, Germany, has many years of experience providing ERP services and offers a range of “small, but fine tools” dealing with Microsoft Office and the XML standard, especially for the iSeries world. GOERING has also established another business segment – mobile warehouse solutions – and launched its corresponding iMwarehouse solution in spring 2006. This

solution's platform independence, stability, and ergonomics top competing approaches. In addition, iMwarehouse was created as a Web service in accordance with the current design principles of Service-Oriented Architectures and can be used without any interference in the programming logic of existing warehouse management systems.

### Achieving a quick Return on Investment

The iMwarehouse solution consists of two components: a portable radio scanner with dialog control for end users in the warehouse and Software AG's webMethods ApplinX, which was used to create a Web service for communicating with central warehouse software. Andreas Göring explains the technical details: “Use of Windows CE has become very widespread in the PDA field and it has increasingly found its way into warehouse logistics. This platform's potential goes far beyond how it is frequently used today, as a Telnet client with terminal emulation software that is difficult to operate via command lines. Therefore, we initially developed a radio scanner rich client with the help of Windows Mobile .NET technology.” It offers much more convenient dialog options than Telnet and HTML clients. In addition, the iMwarehouse client can, for example, buffer data in case of radio interference and independently call on the ApplinX-based Web service to access the warehouse software, guaranteeing a very high degree of operational stability during day-to-day use.

webMethods ApplinX plays a key role in the iMwarehouse concept, confirms Andreas Göring, who had dealt with similar solutions previously: “The product has already proven itself on the market in the last several years and is uniquely suited to the realization of Web services.” Because ApplinX works at the level of screen transactions (for example, in the iSeries sphere it wraps 5250 data streams and links them with corresponding

GUI-based dialogs), interference with the programming logic on the host is unnecessary.

“With ApplinX, existing processes and transactions can be described very easily and implemented on modern end devices. Thus, iMwarehouse can be introduced in only a few days, taking into account individual customer requirements, and offers a return on investment in well under a year,” Göring stated. And because webMethods ApplinX can both process other screen transactions according to the same principle and function as a pure Java application on server platforms like Windows, Unix, Linux, and Solaris, Göring sees great market potential for iMwarehouse – even beyond the iSeries world.

### KEY COMPONENTS

#### webMethods ApplinX

webMethods ApplinX was used to create a Web service for communicating with central warehouse software.

### ABOUT SOFTWARE AG

Software AG is the world's largest independent provider of Business Infrastructure Software. Our 4,000 global customers achieve measurable business results by modernizing and automating their IT systems and rapidly building new systems and processes to meet growing business demands.

Our industry-leading product portfolio includes best-in-class solutions for managing data, enabling service-oriented architecture, and improving business processes. By combining proven technology with industry expertise and best practices, our customers improve and differentiate their businesses – faster.

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