



UNILIN integrates business unit processes from around the world



www.codit.eu
+32 3 844 31 72
info@codit.eu

When the Belgian UNILIN was taken over by the American holding Mohawk Industries in 2005, the quick integration with the other business units around the world became a necessity. There was a simultaneous desire to integrate the many heterogeneous IT systems of all business units into a new, service oriented structure (SOA), and automate all business processes. Mohawk also sought software to centrally monitor all automated processes in order to quicker react to changes in the market.

In order to realize this in practice, Mohawk Industries opted for Microsoft BizTalk Server, in combination with the .NET Framework 3.5, Windows Communication Foundation (WCF) and Windows Workflow Foundation (WF). In doing so, Mohawk could optimise its general business process management (BPM) and moreover enable its systems to communicate with those of its business partners. Together with integration expert CODit, the Belgian team of UNILIN forms the worldwide SOA/BPM competence centre. Together they created a united *Enterprise Service Bus* (ESB) with Microsoft BizTalk Server 2006 R2 as the engine.

Outline

Country: Belgium

Sector: Industry

Profile

The Belgian, Wielsbeke based UNILIN group manufactures furniture, roof components, wood and flax chipboards, MDF, HDF and laminate flooring, among which the well known Quick-Step brand. In 2005 the company was taken over by Mohawk Industries, a large American holding specialized in flooring with various business units.

Challenge

After the various business units worldwide were better attuned to each other and the business processes automated, UNILIN also wanted to integrate applications of its business partners. It wanted a central and uniform monitoring of all automated processes in order to react quicker to changes in the market.

Solution

Together with expert CODit, UNILIN chose a SOA-, BPM- and ESB-infrastructure, based on Microsoft BizTalk Server, .NET Framework 3.5, Windows Communication Foundation and Windows Workflow Foundation. The integration and communication between the most diverse IT systems has worked much smoother ever since.

Advantages

- Quick integration of new business units in spite of a great diversity of business systems.
- Fully automated internal business processes
- Flawless communication with applications of business partners with different protocols
- Automated business processes are managed and monitored centrally
- Applications can be adjusted much quicker as a result of changes in the market
- Developers can communicate better with the *business* by clearly depicting the architecture visually
- A very affordable solution by Microsoft

UNILIN has been a subsidiary of Mohawk Industries, a holding with various business units spread around the whole world, since 2005. Integrating a new business unit with the others was a difficult and time-consuming activity, because one constantly had to work ad hoc. That had to change. “The necessity to enable the mutual IT systems of the holding to better communicate with each other became urgent”, explains Hans Valcke, Microsoft Technology Program Manager & Architect at the UNILIN Group. “We also wanted to automate the business processes of the various worldwide business units. I am chiefly talking about *business process management* for warehouse management, the planning, the financial process flow and the execution and follow-up of orders; in summary, everything except for the concrete process that controls the machines in the factories.”

In addition to a smoother integration of new business units, Mohawk Industries wanted to centrally and uniformly monitor all automated processes. The holding also had to be able to react quicker to changes in the trend sensitive market in which it operates. In assignment by Mohawk Industries, the Belgian UNILIN team, together with integration expert CODit, created service oriented architecture (SOA) that makes business process management (BPM) possible. Both partners form the worldwide SOA/BPM competence centre of the holding. As foundation for the SOA structure, UNILIN and CODit opted for Microsoft BizTalk Server in combination with the .NET Framework 3.5, Windows Communication Foundation (WCF) and Windows Workflow Foundation (WF). They created a united *Enterprise Service Bus* (ESB) with Microsoft BizTalk Server 2006 R2 as the engine.

No entanglement nightmares

Microsoft BizTalk Server is not a stranger to UNILIN. “In order to keep with the fast growth, UNILIN automated a considerable number of business processes in the past.” says Hans Valcke. “For example, we launched an e-commerce system in 2000 for a closer cooperation with our clients. Since then they have been able to consult the most recent product information about their entire range of products. They can also place orders around the clock, track them and consult their entire order history. Orders that come in by telephone or fax therefore require less manual input. We do not only save a lot of time, but also avoid data entry errors. Microsoft BizTalk Server supports this e-commerce system and enables the entire web application to communicate with our underlying systems and those of our clients. Given our satisfaction with the possibilities of Microsoft BizTalk, we also wanted to implement



the software to enable the better and smoother integration of business units.”

UNILIN opted to collaborate with CODit. Hans Valcke: “CODit is without doubt the best Microsoft BizTalk-partner in the Belgian market. We have worked with them since 2004, which means we that we are now on the same wavelength. An important trump card is that they allow us to make use of their own applications, such as the *CODit BizTalk SOA Dashboard* and the *CODit BizTalk Implementation Framework*. They have evolved from a classic systems integrator to an independent Microsoft BizTalk distributor and continue to invest in new technologies. This is what makes it so fascinating to work with them.”

In order to avoid the typical web service entanglement nightmares, UNILIN opted for an ESB. This is where all web services link up and can communicate with each other. According to Sam Vanhoutte, Chief Technical Architect at CODit, the option to continuously expand the system was very important: “With a daily volume of 250.000 business transactions this is also necessary. The ESB must be completely reliable. After all, if the system should go down for two hours, the factories would also come to a standstill. This is why we opted for a decentralized approach: every business unit runs on an own Microsoft BizTalk Server that works together with that of the other branches. This offers maximum expansion possibilities and ensures business continuity. In order to oversee all this we are able to manage and monitor everything from our headquarters in Wielsbeke.”

Another step further

Since the introduction of the new SOA, BPM and ESB architecture, UNILIN operates in a much more structured manner and is able to make better predictions. To do so the business works in a number of clear-cut phases. In the first

“In order to connect our own IT systems to those of our clients and partners, our system must be able to deal with an entire series of communication protocols, constantly adding more. Thanks to Microsoft BizTalk we do not need to invest in extra software for interoperability.”

Hans Valcke, Microsoft Technology Program Manager & Architect at UNILIN Group

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phase a business process model is made of the specific business unit. This is done locally by people in the business in cooperation with competent systems architects. The second phase consists of a quick and pragmatic integration of the business unit. In doing so, it is attempted to preserve the existing business processes and applications as much as possible. The third step subsequently follows: by creating a *Performance Service Abstraction Layer* on top of the existing applications, they are able to communicate with other systems. In the final step, the business processes of the business unit are optimized and streamlined.

“One of the main advantages of this SOA/BPM system is the flexibility”, explains Hans Valcke. “Business processes change frequently in our sector as a result of market changes. It is therefore crucial to take these processes out of the applications, as it were, enabling us to modify them as easily as possible. It is also very important to be able to better depict the architecture visually. This allows developers and systems architects to better communicate with non IT persons. Our most important tool for this is Microsoft BizTalk Orchestration.”

UNILIN Flooring wanted to take it a step further and also involve its business partners and clients in the automation of its business processes. Hans Valcke: “Connecting our own systems to those of our clients and partners provides many interesting possibilities. Though we do of course not want our clients and partners to have to specially modify their applications. We insist that they maintain as much freedom as possible to communicate with our system. This is why our system must be able to deal with an entire series of communication protocols, constantly adding more. For those who work with web service based standards, we use .NET 3.0 WCF web services. Though our system can also deal with *Electronic Data Interchange* (EDI) protocols, given that Microsoft BizTalk 2006 R2 fully supports it. Due to its extensive series of adapters, Microsoft BizTalk is extremely suited to offer our clients total freedom, without us having to invest in extra software for interoperability.”

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