Case story

Supply Chain Integration at Akzo Nobel Coatings, using Microsoft .NET

HP implements global BizTalk solution, enabling significant stock reductions and rapid return on investment

Akzo Nobel Coatings is the world largest supplier of paints, with a large range of products, such as household paints, industrial spray coatings, marine coatings and car refinishes products.

Microsoft and HP have built an electronic Supply Chain Link (eSCL) solution for Akzo Nobel Coatings, based on Microsoft BizTalk and Microsoft .NET Enterprise Servers, allowing significant cost savings in stock, logistics and at the same time improving stock availability.

At the time of writing, 25 Akzo Nobel sites in Europe and US have been connected to 40 suppliers through one central electronic message exchange. The number of connections is rapidly expanding.

Situation

Akzo Nobel is an international company active in the areas of pharmaceuticals, coatings and chemicals, with operations in over 80 countries, employing more than 67,000 people. Global activities are organized into a decentralized business unit structure and are divided into three distinct Groups—Pharma, Coatings and Chemicals. The businesses these Groups operate have considerable freedom within the broad strategic framework of the company and report directly to the Board of Management. The product divisions are quite independent in their investment strategy, including their IT policy.

Akzo Nobel maintains a diversified product portfolio with leading positions in important market segments. Akzo Nobel has offices in Europe, North and South America, Africa and the Far East. For more information about Akzo Nobel, see: http://www.akzonobel.com.

The coatings division of Akzo Nobel was looking for ways to cut costs for worldwide purchasing of MRO and direct goods for the 29 international business units. While having a decentralized organization and culture, the company saw that connecting business to their (shared) suppliers would require a joint approach. The business units in Akzo Nobel Coatings agreed to a joint project that became subsequently known under the name “P@CESS”, which stands for “Procurement AkzoNobel Coatings Common Electronic Sourcing Support”. P@CESS evolved into four sub-projects, for the areas

1. eProcurement (purchasing of supplies and services)
2. eAuctions (for price reduction on commodity goods)
3. eSupply Chain Integration (for purchasing of strategic goods)
4. eInfrastructure (for a common infrastructure for all of the above)
Microsoft and HP were selected to implement the eSupply Chain Integration and eInfrastructure projects. The fact that Akzo Nobel standardized worldwide on a Microsoft technology infrastructure made Microsoft a very strategic partner of Akzo Nobel. The flexibility of the Microsoft BizTalk based solution and the low total cost of ownership were key reasons to select Microsoft. HP’s business oriented solution architecture, world-wide implementation capabilities, and the SAP connectivity experiences helped to seal the deal.

**Solution**

A major objective of this project was to lower cost in the supply chain by adopting the Vendor Managed Inventory concept, which is based on the following key elements:

- The supplier manages the stock: this means that the supplier decides on when to deliver goods (this can be implemented with or without telemetry)
- Invoicing is handled via self-billing: Akzo Nobel sends a “Monthly Usage” report based on deliveries, and the supplier sends the invoice, based on the corresponding “Monthly usage” report from Akzo Nobel.
- Consignment stock: in this variant of VMI, the supplier owns the stock, and monthly usage is based on stock change.

Goal of the project was to provide the message infrastructure and B2B connectivity for VMI. An important decision factor was the flexibility of the solution, both in terms of business processes handled by the infrastructure, and in terms of connectivity and supported document formats. The underlying infrastructure needed to be designed to be able to handle all current and future B2B processes within the scope of the P@CESS project.

The actual project implementation by Microsoft and HP started in end of May 2001, with 4 buyers and 4 suppliers in Europe, with the first combination already in production by end of August 2001. The last combination went into production in October 2001.

After a business evaluation of the first pilots, further rollout for 24 sites has started by HP in mid 2002, with the ultimate end goal of covering more than 100 sites, with 5,000 suppliers connected in total.

This rapid implementation cycle was enabled by using Microsoft BizTalk Server, together with the Compaq iOrchestrator toolset to connect SAP systems.

Compaq iOrchestrator is a set of software products developed by Compaq, now part of the new HP, to complement Microsoft BizTalk Server. The primary components of
iOrchestrator are intelligent adapters and wrappers that support direct and remote interfaces between Microsoft BizTalk Server and other business functionality.

**Project approach**

Akzo Nobel started with a business process (re)design, establishing the key business processes for VMI. The Microsoft/HP project team documented the business requirements of the IT solution, and translated this into a comprehensive solution architecture, showing the relation between business requirements and goals, through functional requirements, down to the technical system design.

This approach showed to be the right approach. The implemented pilot solution needed some smaller technical updates, but the architecture and design of the solution has not been changed since the start of the project.

The general attitude in the project is to have mean and lean solutions, rapid development, and quick time to market.

**Solution characteristics**

The following graphic shows the high-level architecture of the eSupply Chain Integration solution developed for Akzo Nobel.

All B2B connections flow through a central messaging hub based on Microsoft BizTalk server. All Akzo Nobel Coatings sites will eventually be connected once to the hub. All suppliers will also be connected once, either to the Supply Chain Web site, or the directly to the messaging hub. The messaging hub connects each site to its suppliers, does all format conversions and routes documents to the correct recipient.
The web site allows a quick connection time of suppliers, making Akzo Nobel independent of the rate of adoption of B2B links at the supplier side. Once a supplier is ready to adopt a direct ERP link, the can be connected directly rather than through the web site.

As there will be a few hundred direct ERP links, with between 5 and 10 different messages, the number of B2B links and format conversions could be astronomical. To avoid this, a key architecture decision was to have a central message format. Each incoming document is converted in the central format, and subsequently converted to the required format of the receiver. This double conversion is done even when the in and outgoing formats are equal, such as in a SAP – SAP link. The reason is that in this way, each site only needs to be connected once, independent of the format requirements of the receiver.

For the intermediate format, the Chemical Industry Data Exchange (CIDX™) has been chosen by the project team (More info on www.cidx.org). In this way, the work of the CIDX™ organization in standardizing the content of messages can be reused. Also connectivity to other organizations and marketplaces adapting CIDX would be simplified.

With 1:1 connections the amount of connections and message formats would lead to thousands of channels which would lead to a maintenance nightmare. Using a central format has been one of the key success factors in this project. As there are no 1 to 1 B2B connections, using a central message format allows the use of a BizTalk architecture were all incoming and outgoing documents of the same format share the same BizTalk channel. This dramatically reduces the maintenance costs.

**Results**

The major benefits that Akzo Nobel wants to derive from offering a Supply Chain Solution to their worldwide business unit community are:

- substantial savings in stock
- savings in transportation costs
- operational cost saving
- better utilization of corporate contracts resulting in significant price reductions
- improved stock availability

The anticipated cost savings are significant: Akzo Nobel calculated one time saving of through 25% to 50% reduction on stock, plus ongoing yearly savings through 5% reduction on transportation costs, and 20% reduction on document handling. Each new site’s connection cost are earned back in less than three months after production start.

The suppliers are also realizing a number of advantages: integrated suppliers are benefiting from a stronger partner position at Akzo Nobel, and the integration of their ERP systems with Akzo Nobel is an advantage over other suppliers, as substitution is less likely. This solution also represents an investment of Akzo Nobel in a participating supplier, which in turn has lower operational costs than other suppliers.

**For more information**

For more information about HP solutions for trading partner enablement, contact your HP representative or reseller or visit the hp website at [www.hp.com/solutions/microsoft/tpe](http://www.hp.com/solutions/microsoft/tpe).