Nippon Chemi-Con Corporation chooses IBM DB2 9 with pureXML™ for Manufacturing and Inventory Management

Facts

Customer: Nippon Chemi-Con Corporation, http://www.chemi-con.co.jp/
Location: Tokyo, Japan
Industry: Manufacturing
Products: IBM DB2 9 with pureXML™
IBM Business Partners: * ADOS Co., Ltd http://www.a-dos.com/
* JustSystems, Inc. http://na.justsystems.com/

Executive Summary

Nippon Chemi-Con has built a solution based on DB2 9 pureXML™ for manufacturing and inventory management systems in its worldwide factories. DB2's sophisticated support for XML enables Nippon Chemi-Con to efficiently control and quickly adjust their production based on the monitored order status and load at production sites.

Introduction

Established since 1931, Nippon Chemi-Con has been a leading manufacturer and seller of electronic components and parts for precision instruments, including its flagship product, the aluminum electrolytic capacitor used in many consumer electronic products. Nippon Chemi-Con is engaged in business all over the world, with overseas sales being over 60% of the total revenue.

Challenge

Nippon Chemi-Con has several factories in Japan and worldwide. They must maintain a balance of supply and demand across all global factories as well as respond quickly to unexpected business demands.

Mr. Noritaka Suzuki, manager of Information System department at Nippon Chemi-Con, explained their business challenge. "*We had to establish a manufacturing capability based on our customers' requirements to keep a balance of supply and demand. Therefore, we had to know the production status of each factory to keep delivery dates and proper inventory. We needed to establish a system that can give visual information about the production status to control our manufacturing-on-demand so that we can provide our products to the customer who needs them most without any delay.*"

Nippon Chemi-Con had tried different approaches to improve their system under such circumstances:

"*Our information system department tried to use a data warehouse as well as spreadsheets for inventory information. However, the problem was the data model had to be changed after several process iterations*", said Mr. Suzuki. "*The data had to be represented and interpreted differently depending on who processed or analyzed it. Also, there was a requirement that data should be used by our worldwide factories, not just in Japan, so a user-intuitive interface was essential without understanding Japanese.*"

Solution

After several attempts, Nippon Chemi-Con consulted ADOS Co., Ltd, who recommended usage of an XML database together with JustSystem's xfy Enterprise Solution software. This software provides capabilities for handling and visualizing XML data via a web-based, user-friendly interface. DB2 9 was chosen as the database server because of its ability to manage both relational and XML data efficiently. DB2's hybrid database technology enabled Nippon Chemi-Con to store critical business data using proven database functionality and to provide the XML interface for passing information to the end users in a flexible manner.

By adding XML functionality on top of an existing relational database, the system creates visualization of production status and availability of manufacturing lines. Communication between factories has become smooth and proactive so that low inventory situations can be detected and resolved earlier, and new physical distribution lines can be created quickly to meet unexpected demands.

"*The employees who are working at a factory site need to know detailed data, but our management team requires trend analysis for our product. This system allows us to easily provide users with personalized information.*", said Mr. Suzuki. "*We are surprised about the effect of this system as the communication among our factories has become more active. We actually opened up new distribution lines between factories that had never exchanged products before.*"

ADOS created a web-based prototype in only one week and completed a beta version in six weeks. Two months later, Nippon Chemi-Con went into production and has been successfully using the software solution since October 2006.

"*If they only wanted to check the status of production or inventory, all they needed to have is relational database. However, their major issue was how to represent the information so that it can be easily analyzed and used*", said Mr. Mitsuru Ito, ADOS Director of Professional Service department. "*XML was a better choice to display the data through our 'viewer' software with various different attributes. We established the environment using both relational and XML database features in DB2 9 without any burden on the*

users. One of the concerns was the performance of processing large amounts of data, but IBM Japan prepared a testing environment that allowed us to verify that performance would not be an issue. We were very impressed with the technical support provided by IBM."

Before the installation of this new system, production line managers had to wait until they could obtain information about their line status and order status to make proper decisions. With this new system, they can make a decisions based on the latest status in real time without any delay.

Mr. Suzuki thinks that the initial investment for the new system will pay off within one year. In the future, he wants to expand the use of XML database technology. Mr. Suzuki believes that there are further opportunity exploit the XML data and DB2 pureXML in a wider range of their applications and services.

Benefits of DB2 pureXML

- Active communication among factory facilities enables better control of supply and demand.
- The open-standards used in the solution make it possible to show different views of the same data to different audiences.
- Initial development efforts required only a few weeks, enabling a rapid deployment of a production environment.