Coldset Printing Partners reduces energy usage by over 10 percent

The IBM Informix TimeSeries solution helps company track usage trends and analyze data over time

Overview

The need

Coldset Printing Partners sought to reduce energy consumption across its printing presses by 10 percent.

The solution

Working with Energcon, Coldset Printing Partners implemented an energy monitoring system based on Rational Network's logging system and the native TimeSeries capability of IBM Informix software that enables staff to quickly view power consumption for each printing press at any point in time.

The benefit

Reduces energy consumption by more than 10 percent; delivers near real-time access to time-series data for reporting; provides nearly unrestricted scalability with no performance impact

In 2006, Reinout Bertels, Safety, Health and Environmental manager for Coldset Printing Partners, a joint venture of print media groups Corelio Printing and Concentra, met with other media companies in Belgium as part of a national effort to reduce corporate energy consumption. However, as each company provided data regarding its energy usage for printing newspapers, books and magazines, Bertels saw a surprising trend.

"We want to be reliable to society by not using more energy than absolutely needed and we're trying to be responsible to our stakeholders by not spending more money than absolutely needed," says Bertels, whose company is one of the largest printers of newspapers in Belgium. "As we participated in the benchmark study, we saw that our energy usage related to our printing presses was about 10 percent higher in our plant as compared to a similar printer's operations. We committed ourselves to understand why this was the case and to reduce those costs."

When Bertels returned to the office, he launched an Energy Savers workgroup to identify and fix high consumption areas of its operations. But to do so the team needed the right data.

"We only had the quarterly total from our power supplier," says Bertels. "But that's just a general number; it's not split up per transformer. We have four printing lines and an additional line for other services. Separate power transformers feed each of these lines. So to reduce the baseload of energy, we needed accurate numbers for each transformer."

"Comparing energy usage for the same time period in 2010 and 2011 showed that we brought our consumption down by more than 10 percent."

—Reinout Bertels, Safety, Health and Environmental Manager, Coldset Printing Partners

As the Energy Savers team began investigating how to obtain this data, it was introduced to Energcon, which offers energy monitoring and reporting systems to help companies track power, gas, water, heat and carbon output. "We founded Energcon because we saw there was a need to provide customers with a visible view on energy consumption and use," explains Gerrit Leskens, Energcon's CEO.

Energcon's offering—which integrates an easy-to-use web application with an energy logging system from Rational Network and IBM® Informix® database software—helps Coldset Printing Partners track energy consumption for each of its printing presses and view energy trends over time so staff can identify if any process or system is drawing more energy than necessary.

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—Throstur Jonsson, co-CEO, Rational Network

The logging system is placed on each transformer in the company's printing facility and captures energy consumption for each press every 15 minutes. The data is then sent over existing power lines via GPRS modem and stored in an IBM Informix database. From there, Bertels can log into Energcon's web application to quickly view power consumption for each printing press at any given point in time.

"I can look at power peaks, consumption per meter, and accumulated consumption," says Bertels. "Whatever I want to see I can see and I can choose my timeframe. It's very user-friendly for a nontechnical guy like me and it's so easy to use that you don't hesitate to just log in to look. It has become part of my daily routine to check our power usage."

Managing time-series data

One of the challenges in tracking energy trends over time is the ability to analyze time-series data—any set of data that is accessed in sequence by time and can be processed and analyzed in a chronological order.

"There is both a performance and storage challenge with traditional relational databases," explains Throstur Jonsson, co-CEO of Rational Network. "What happens in most cases is that when you start collecting data in a conventional relational database, it's very fast for the first few days or first few months. But after that, the performance goes down almost exponentially as the amount of data increases. So when you are doing calculations, for example, manipulating a time series, adding one time series to another or migrating the time series of different sampling scales, it gets very heavy on a conventional relational database."

Solution components:

Software

- Energcon Energy Monitoring System

   – Rational Network Control2Net
   – IBM® Informix® 11.7
   – IBM Informix TimeSeries

IBM Business Partner

- Rational Network

As Rational Network reviewed database software for its logging and powerline communication system, it found IBM Informix provided the scalability and performance required to meet client needs. "We are using Informix to make innovative technology of the future available today," says Jonsson. "We started to study the Informix TimeSeries feature and found that performance was independent of the amount of data stored there. It didn't matter how much data we pushed into the Informix TimeSeries module, the performance was always the same. I have never seen anything else where no matter how complex those queries are, data is available instantly. Additionally, because the time-series engine is integrated into the database, we can monitor data using standard SQL queries. It would take us five to ten times more effort to migrate time-series data into applications without this integrated approach."

Energcon currently uses the Rational Network logging system to monitor energy usage for dozens of companies across more than 1,000 buildings, logging and storing data from more than 3,000 meters throughout each day.

"The amount of data we've accumulated for clients over the years is astounding," adds Guido Heremans, co-CEO of Rational Network. "We call Informix the data shark because we're never concerned how much space there is. Informix can easily handle it."

During initial development of its logging system, Rational Network compared IBM Informix to other database and time-series products in the market and found that Informix also provided the reliability, extendibility and stability required. "The Informix database always works," says Jonsson. "It always delivers what it's expected to deliver and that helps us deliver new solutions to market faster and less expensively."

Reducing energy consumption by 10 percent

For Coldset Printing Partners, the solution provided the insight company staff needed to reduce energy consumption in its printing operations by €30,000 (US$42,000) annually. Based on its findings, the Energy Savers team adjusted operations for increased energy efficiency. This included installing automatic systems to shut down lighting when it was not needed and replacing existing air compressor systems with more energy efficient technology.

"I can see very clearly where my baseload comes from and can make decisions that help us save money," says Bertels. "Comparing energy usage for the same time period in 2010 and 2011 showed that we brought our consumption down by more than 10 percent."

Additionally, the company can now assess power requirements to increase production when needed. "I can see where my peaks are and how high they are," says Bertels. "So if we have to make further decisions on power needed for adding presses, then it's easy to find out what extra power will be required."

For more information

To learn more about IBM Informix database software, please contact your IBM sales representative or IBM Business Partner, or visit the following website: **ibm.com**/software/data/informix

You can get even more out of Information Management software by participating in independently run Information Management User Groups around the world. Learn about opportunities near you at: **ibm.com**/software/data/usergroup

For more information about Coldset Printing Partners, visit: www.coldsetprintingpartners.be

For more information about Energcon, visit: www.energcon.com

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