



Informatica helps Thames Water maintain safe water supply with wiser budgeting

FAST FACTS

CUSTOMER

Thames Water Utilities Ltd.

CHALLENGE

Extracting data from a variety of heterogeneous operational databases and flat files to create a data warehouse that provides management information on the replacement and refurbishment of operational assets.

BENEFITS

- Continuous access to data and information across all business and operational activities
- Ability to immediately provide data support for new report requirements
- Full compatibility with all source formats from Oracle to flat file
- Support of analytics allows continual enhancement of business

INFORMATICA SOLUTION

Informatica PowerExchange

NUTS AND BOLTS

- Informatica PowerCenter and PowerExchange
- Sources: Legacy, Oracle, SQL Server, various external flat file feeds
- Target: Business Objects flat file targets
- Platform: IBM AIX

“...We first decided to implement Informatica as our data integration platform more than five years ago. Since then, we have seen its role expand continually and it now covers data from every aspect of our operations. I have not to this day ever had any cause to regret that initial decision...”

— Jim Weir, Business Support Programme Manager

Water is one of those things we take for granted – we turn the tap and out it comes. But before gushing out of the tap and into the glass, it must go through a mass of pipes, plants, pumps, rivers and canals, not to mention an entire infrastructure for sewage disposal, treatment and water recycling.

With much of the infrastructure that serves Greater London and the Thames Valley area having been installed in the Victorian age, Thames Water, the utility company serving the region, is faced with a continual demand for upgrading, replacement and refurbishment of its assets. It is estimated that the asset value alone of the company is in the region of £ 20 billion, yet it can only spend £400 million each year on this ongoing programme. Identifying which parts to repair, replace or refurbish calls for extremely complex decision support – a task that has been successfully aided by the Informatica PowerCenter data integration platform.

The Challenge

Creating a data warehouse by extracting data from a variety of heterogeneous operational databases and flat files, providing management information on the replacement and refurbishment of an extensive water infrastructure system.

Keeping the water pure

RWE Thames Water is the world's third largest water company with more than 70 million customers and 20,000 employees worldwide. The company provides water and wastewater services to the local communities it serves, and its expertise is focused on asset-owning regulated business, mainly in the USA and the UK.

Globally, the company has been involved with many headline projects, from upgrading the London Underground, leading the Izmit Dam construction consortium in Turkey and treating sewage in Louisiana, through to building a new water treatment facility in Shanghai as well as upgrading and operating five wastewater treatment works, nine storm works and the sewerage network in and around Edinburgh.

Replacing the Victorian system

RWE Thames Water's UK flagship, Thames Water Utilities Ltd, supplies water and wastewater services to 13 million customers in the Greater London and Thames Valley areas, as well as maintaining water management and supply contracts across England, Scotland and Wales. As part of the company's mission to ensure not only the highest quality of drinking water, but also to

ensure its ability to deliver best value, it has a carefully managed programme to refresh its infrastructure, much of which dates back more than a century to the original establishment of London's water and sewage systems.

"Back in those days, the population of London was just a fraction of what we serve today," said Jim Weir, Business Support Programme Manager. "So some parts of our infrastructure are working at more than twice their design specification. Our annual maintenance budget represents only around two per cent of the total cost of the infrastructure, so we have to make sure that every penny we spend is spent on the right parts."

Although some of the company's assets, such as mains and sewage pipes have lasted very comfortably, many of the assets such as pumps and treatment plants cannot be expected to enjoy such longevity. The challenge, as Mr. Weir points out, is to decide which assets should be replaced and how.

"Historically, asset management relied on a mixture of maps, people's knowledge and a host of independent legacy systems. Some were paper maintenance records going back forty or more years, others were in Excel documents, others were in databases. We needed a system that could pull together all that information and present it in a way to help inform our decision-making and ensure we set the right priorities."

Finding such a system was a large challenge. Even though the original ITT went out more than five years ago, Mr. Weir recalls the process well. "The information we need is very important, but it's not real time data like emergency repairs. Instead the data can be anything from a few hours to many years old. Because we had outsourced our IT operations, we appointed an independent firm of consultants to help us define and execute the project."

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“The consultants suggested we should build a data warehouse that would extract all the data we need from the various sources, transform it into a common format and load it into a front end that would allow us to compare assets and decide the best course for each piece of work,” he continues. “From an initial selection list of more than 100 companies, we whittled it down to six, then four, then two and ultimately to Informatica, a decision that in our opinion has more than adequately stood the test of time.”

Full of good information

As the data warehouse was a totally new project, it started, in Mr. Weir’s words, as “an empty vessel that we planned to fill with good information.” In the five years since its inception the vessel has indeed filled up, with distinctly beneficial results. “As we have gone through using the warehouse we have been able to expand its uses substantially. Today, we use the warehouse to cross reference data from every aspect of Thames Water’s operations including customer interfaces, our assets, government statistics, local development plans, local performance and usage, supplier and partner information, in short just about every aspect of our business,” he said.

“The scale of the data warehouse is such that we now use it to identify and manage all elements of decision support. Often we get asked for information using different parameters to our regular extracts. Informatica’s PowerCenter plays one of its strongest cards in this respect, because we are able to make huge savings as the software can carry out complex extractions without the necessity to recode every time. In addition, we have built up the expertise in house to be able to turn those projects around very effectively, so we are able to give the business a fast, accurate and efficient response.”

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Integration competency

In many ways Thames Water has evolved its data warehouse application organically towards becoming an Integration Competency Centre (ICC). “When you develop expertise it makes a great deal of sense to share it with other parts of the business,” said Mr. Weir. “We have the ability here to carry out data migration from any one of the organisation’s source systems, and present it to an analytical front end in whichever way is needed.

“This offers tremendous opportunities to leverage our existing investment. Around 70 per cent of the cost of any ETL-based data integration comes from the extraction phase - coding the data, writing the migration routines and checking the results before loading it into the data mart. PowerCenter and Informatica PowerExchange allow us to cut down that part of the cost by more than half, and by sharing the resource across the group the return on investment (ROI) calculation will keep on improving with every extraction we conduct!”

Although Thames Water did not set out to produce a quantifiable ROI calculation on the Informatica installation, more evidence of its importance to the company can be seen from the fact that it has decided to make a major systems upgrade to the platform on which it runs. The legacy of heterogeneous servers and storage solutions has just been replaced with an IBM P Series solution, writing data to its own dedicated disk array, and Informatica Power Exchange has been upgraded to the latest version.

“We ran the last system for five years, and with the continual growth in its usage across the business, we simply had to expand and modernise the platform,” he said. “IBM was recommended to us by Accenture, and offered us not only a best of breed hardware solution, but also the ease of operation from having a single vendor for the whole platform.”

A core system

As Thames Water Utilities has evolved the use of its data warehouse, it has unquestionably moved from being a useful tool to becoming one of the company's core systems. "Every decision we make in the business now uses information that has been processed through the Data Mart, whether that is operational asset information, customer billing, financial projections or business support. It is now a key system to the business," said Mr... Weir.

"Certainly when we made the decision to use Informatica we felt then that it was the best solution in the market. Interestingly, the other shortlisted finalist has since disappeared from the market. When we decided to upgrade the environment we once again looked at the market, but there was simply no other application that came near Informatica in terms of functionality, ease of use or scalability.

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