

# THE COMPUTERWORLD HONORS PROGRAM

## CASE STUDY



LOCATION:  
*San Antonio, Texas,  
United States*

YEAR:  
*2006*

STATUS:  
*Laureate*

CATEGORY:  
*Environment, Energy  
and Agriculture*

NOMINATING COMPANY:  
*Information Builders*

### ORGANIZATION:

Valero Energy Corporation

### PROJECT NAME:

Reporting Consolidation

### Summary

As part of an ambitious reporting consolidation project, Valero Energy Corporation standardized on one enterprise Business Intelligence solution, enabling them to eliminate five other existing software packages and realize 100% payback in two years.

### Introductory Overview

Valero Energy Corporation, the largest refiner in North America, has grown into a market-leading diversified energy company by expanding its logistics, operations and production capabilities through strategic capital investments, mergers, and acquisitions over the past 10 years. Today, San Antonio-based Valero has approximately 22,000 employees and a 2005 annual revenue of \$82 billion. The company owns and operates 18 refineries throughout the United States, Canada and the Caribbean with a combined throughput capacity of approximately 3.3 million barrels per day.

Without a doubt, the gamut of acquisitions enabled Valero to seize opportunities in new markets and strengthen its geographical diversity. But the transactions produced a new technology landscape that was also markedly diverse - there were separate islands of information everywhere and no easy way for Business Intelligence (BI) reports to present a unified view of operations. To top it off, Valero was paying license fees, training/travel expenses and developer costs for six reporting applications, totalling \$600,000 per year.

In addition to the annual maintenance fees, Valero incurred infrastructure costs to support the different application deployment methods; for example, some were full-client applications on desktop computers while others were rolled out from a server. Some servers were UNIX and AIX based while others were on Windows operating systems. The business case for reporting consolidation was clear and became a cornerstone of the company's evolving BI strategy.

Starting in April 2004, Valero Energy Corporation launched a project to standardize on one enterprise Business Intelligence solution - WebFOCUS from Information Builders, enabling them to eliminate existing software packages from SAS, Inc., Cognos, Crystal Reports, Hyperion, and Oracle.



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The key objectives of the project were to reduce the annual license fees, reduce data and tool redundancy, and to improve information integrity and reliability. Valero was also looking to consolidate employee skill sets and promote the sharing of knowledge and solutions. Instead of having three Crystal developers, two Cognos developers, etc., Valero wanted 12 developers - period. Finally, Valero wanted to leverage the purchasing power of their investment by dealing with only one vendor.

Using WebFOCUS, Valero converted 260 critical and high priority reports from a variety of application backgrounds in 18 months. All financial and accounting reports are designed to pull income, expense, and statistical data from the company's SAP Business Information Warehouse (SAP BW) and Oracle data warehouse. Other operational reporting gets data from a consolidated Oracle operations data store and MS SQL Server data sources located at the refineries. The consolidation effort, which is targeted for completion by midyear, saved Valero an estimated \$191,000 in software licensing fees in 2005 and is expected to save \$478,000 more this year, says Kirk Hewitt, the company's Director of Reporting and Financial Systems. He expects total payback in about two years - outstanding for any capital project in the market today.

### Benefits

Improved data integrity – By reducing data and tool redundancy, Valero was able to improve information quality. They did not want to be in the risky position of duplicating data and passing it back and forth across different applications, which is not ideal because it consumes time and resources, puts data at risk, and costs money. Instead, they chose to concentrate on the two key data sources that already existed – an Oracle data warehouse and SAP BW – and found a reporting solution that could leverage those investments. By reporting from the data source and not replicating data as they had in the past, Valero reduced the risk associated with moving the data and reduced the cost of creating extra databases and application servers.

Access to more timely and detailed data enables deeper insight into operations, faster response to market changes, and more informed decision making – Because of the conversion, many reporting capabilities were enhanced, which offered additional benefits to Valero users. For example, expense reports for all corporate departments previously showed only top-line numbers. Now, users can easily drill-down to uncover the detail behind the numbers. This becomes extremely useful for budgeting purposes. By drilling down on their WebFOCUS reports, users get the budget detail from the BW-SEM system allowing them to easily compare actual to budget detail, quickly understand the reason for any variance, and take the appropriate action.

According to a recent report in Computerworld magazine, Valero's conversion to WebFOCUS has helped executives gain access to more accurate operational data than they had before. Marcel Dupuis, Vice President of Finance for the firm's Canadian marketing operations in Montreal, has been able to sift through more detailed profit and loss information for each of Valero's 1,000 retail and 89 commercial service stations in Canada. "Having detailed daily, weekly and monthly reports that we can generate and refresh ourselves allows us to react faster to the market and offer the best prices to our consumers," says Dupuis.

By standardizing on a single reporting tool, the company as a whole benefits. Employees get easy and fast access to the information they need to do their jobs, executives can see a more consistent and integrated view of the entire organization across all business units, and shareholders profit from the positive impact on the bottom-line.



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According to the Computerworld magazine report, plant controllers at Valero's 18 refineries are now assembling similar capital expense reports, "it's easier for me to do an apples-to-apples comparison [on capital expenditures] between refineries," says Loren Bates, Valero's assistant controller of refining accounting.

Valero has worked hard to make the report conversion process seamless to users. Most users are unaware of how the reporting system works or how much it costs – they just know it works and that's enough.

Achieved organizational unity – Before the consolidation, Valero's IT Department organizational chart was divided into developer groups by product, for example, SAS, Oracle, Cognos, etc. Now the chart simply reflects the work being done: Production Support, Development and Administration, which has fostered a more collaborative and team-oriented environment.

Significant cost savings – Valero saved \$400,000 per year for a 100% ROI in two years. Savings were based on Valero's total capital investment and the net annual payment on the licensing fees. To date, Valero saved an estimated \$191,000 in software licensing fees in 2005 and is expected to save \$478,000 more this year.

In addition, the consolidation effort reduced training and other development costs. Rather than sending three people to three different cities to train on three different applications, the software vendor trained all 12 developers at Valero on site. They didn't lose a day of productivity for travel and it cost much less. The last round of developer training was about \$20K (including instructor expenses) for 12 students for an average of about \$330/day/student. The result is a bottom-line savings of over \$50K/year on reduced training and travel costs.

Finally, by standardizing on computer hardware and software deployment methods, Valero was able to save on support costs as well. Valero will be able to retire up to 10 servers and about a tera-byte of data storage.

### The Importance of Technology

Over the years, Valero had inherited a variety of reporting applications, each satisfactory in its own right, but all together not adding any business value to the organization as a whole. Business Intelligence technology is vital to supporting business needs and driving efficiencies, but for Valero, this project was about using the right BI technology. That's why they presented a business case for reporting consolidation, and went about selecting the one solution that would best fit their informational and decision support requirements.

Some people claim that all reporting applications are all the same - they simply take data and present it in a required format - but not according to Hewitt. "Some tools specialize in data mining; others excel in multi-dimensional databases, but you pay a price for having a separate server, loading the data, and doing the number crunching," he says. In this case, Valero was not looking for a niche solution. There were two areas of critical importance: Firstly, Valero wanted to make sure their BI solution was future-proof, scalable and could be counted on to support future growth. With the prospect of further business expansion, they didn't want to worry about replacing the reporting solution in a few years. Secondly, Valero demanded a solution with low Total Cost of Ownership (TCO).

Valero had six reporting applications in house and strangely enough, they ended up choosing



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a solution that they had no experience with on the developer side. They didn't let that detract them and in the end they selected the best reporting solution for the job. WebFOCUS came through very well in both scalability and TCO and passed an extensive proof of concept.

The project deliverable was to convert 260 critical and top priority reports. The developers also created several new reports to meet additional business requirements. The majority of Valero's enterprise reporting is against either SAP BW or Oracle. SAP BW is just for SAP R/3 but other operational data is stored in Oracle and MS SQL Server. Much of the retail data comes from a point-of-sale system positioned at each service station's cash register. Daily sales updates are loaded into the Oracle data warehouse each night and then WebFOCUS is used to report against that data. The new system also takes advantage of novel delivery methods. For example, some reports are scheduled, run, and then delivered automatically to users via email.

In addition to the 12 developers in the IT department, Valero has 28 power users in other departments that are trained to develop WebFOCUS reports as needed to support the people in their area. Valero took time ensuring that these power users were properly trained and supported, which made them crucial to the project's success.

### Originality

The uniqueness of this solution lies, for the most part, in the way Valero went about selecting it. They had five enterprise reporting solutions in house to choose from and yet chose one they had never used before. This demonstrates the objectivity of their analysis, their willingness to step outside the box, and their commitment to choosing the best solution to meet their objectives. Through careful, unbiased research and evaluation, they found a way to accommodate what all the existing applications were doing and replicated that functionality using a single platform. This strategy improved Valero's ability to gain operational business intelligence and underpins the company's future growth.

On the technology side, this solution is original because it is already ahead of the curve in terms of Web Services. Valero aspires to simplify the reporting schematic even further by implementing Web Services to take advantage of SAP Exchange Infrastructure (SAP XI). This would greatly reduce the risk of data transfer and manipulation and offer a high degree of flexibility in terms of combining data sources. For example, traditionally when a user requests specific information, a developer has to create that schema in the data warehouse. With Web Services, that whole process is eliminated. There is no need to touch the data warehouse or perform any ETL work whatsoever.

Valero is currently testing Web Services with WebFOCUS for faster reporting time-to-delivery and seamless information integration across the enterprise. Two years ago, when Valero began this project, Web Services were only being invented. But they had the foresight to invest in a truly scalable BI solution that would be able to take advantage of technology advances such as Web Services. Most BI tools cannot do that today.

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### Success

On average, big companies use at least 15 BI packages throughout their businesses because of acquisitions and decentralized purchasing among departments, reports Keith Gile, an analyst at Forrester Research Inc., in Computerworld magazine. For many the business case for consolidation is obvious but the process is daunting.

Valero met the challenge and achieved their goal of standardizing on a BI technology and replacing 260 reports from a variety of software packages with new and improved versions. Valero brought in two Information Builders consultants to help with a few tricky reports, but otherwise developed and implemented the entire project themselves. And they did it without compromising on functionality, performance, or most importantly, user satisfaction. There were hurdles along the way, but Valero made the leap and will reap the benefits for some time to come.

According to Hewitt, users claim that the new reports are equally good or better than the old reports. Accessing reports is much easier and faster through Valero's Web portal compared to waiting for hard-copy. Another huge advantage is the fact that people can output reports in a variety of formats such as Adobe or Excel. This gives users the freedom and flexibility to format information how they like it for use in presentations, etc. It is one small area of functionality that has proved to be a big hit.

Valero's success as a company has multiple dimensions. In addition to receiving several awards for leadership, community care, and shareholder return, Valero was again named one of the top U.S. employers, rising to No. 3 on FORTUNE magazine's list of the "100 Best Companies to Work For." The more employees enjoy the success, the more they want to perform even better. Technology gives people the information and tools they need for forward-thinking market strategies that sustain one of the best workforces in the industry.

For the most part the user community saw little change. Some reports changed format and some reports changed delivery method (i.e. web delivery)but the power users provided the testing which gave them ownership and sign-off responsibilities.

### Difficulty

The biggest difficulty that Valero encountered with the project was getting WegFocus up and running in a stable environment. Progress was slow during the initial transition to WebFOCUS, mainly due to steep learning curves and product issues being ironed out. The sheer magnitude of the project meant Valero was leveraging every iota of the software's functionality. A trip to IBI's head office in New York was made to get the vendor management's commitment to addressing the issues. Working with the vendor, they prioritized and solved issues, one by one. Within six months, things had turned around and the developers went from doing one report in three weeks to ten reports in one week.

With any project of this size that touches this many people, change management is a priority. To get around that, Hewitt presented the business case to the CIO and Controller and asked for their support in managing people who had problems with the shift to the new reporting system. Valero's senior leadership understood the value of the two-year payback and the fact that this was clearly a good business decision. Therefore, they were willing to support Hewitt and let the software convince users that the application would satisfy their needs. That was the most impor-



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tant thing: they were not going to force people to use something that didn't work.

Fortunately, Hewitt and his team proved that the application did work as long as people were willing to put time and effort into learning it. By having change management start at the top, buy-in and acceptance from users fell into place. One developer was reluctant to relinquish his skill set and ended up leaving the company. This was a trade-off: although not desirable, it enabled new employees with WebFOCUS experience to join the team.

The high majority of users and developers today are pleased with the new BI system and have a vested interest in seeing it succeed.

The project was sponsored at the CIO and Controller level. The business case provided a two year payback so the economics were compelling. With this in mind, the CIO and Controller helped direct the Change Management issues.