

# Engineering Consulting Firm Integrates Project Management and Accounting in Demanding Environment

Published: July 2003

---

***Using the Microsoft Office Enterprise Project Management Solution, Denver-based Trigon-Sheehan has implemented an enterprise-level project management system that thoroughly integrates project planning, controlling, and reporting with the firm's accounting system. Consequently, the company has vastly simplified the process of securing and executing jobs and resolved long-standing issues surrounding billing vs. cost rates, project estimating, and integrated project cost and schedule performance reporting.***

---

## **Situation**

Within the last decade, owners of major engineering projects in crude oil, refined products, natural gas, and energy infrastructure engineering and construction have outsourced the details to contractors and engineering consulting services firms that oversee these mammoth endeavors. This has recently changed, thanks to two trends: shrinking profit margins and expanding use of technology. Shrinking margins have made closer communication and collaboration with contractors and engineering services firms imperative for project owners. Technology, including an explosion in the use of e-mail and the Internet at all levels of the industry, has provided a way to make such communication and collaboration possible. But there is still a long way to go, according to Matthew Steele, Project Controls Manager at the Denver-based Trigon-Sheehan LLC, an engineering, procurement and construction firm.

"E-mail and the Internet provide a greater opportunity than ever for companies like ours to share project information with project owners," he says. "But with this opportunity comes the responsibility, and the challenge, of providing that information in a form that project owners can understand and use. This means having a way of clearly conveying estimates before a project is launched and ongoing costs as a project is underway, as well as schedules, deliverables, and a host of other variables that are inevitable in such a complex undertaking."

To address the opportunity and the challenge, Steele's first assignment after joining Trigon-Sheehan was to grow a culture of standardized project controls—from scratch. At the time, project managers lacked a standard scheduling tool and a standardized methodology for schedule creation and maintenance. Moreover, the level of integration between planning and accounting tools was minimal, and the data used by the respective tools was rarely compatible.



## Solution Overview

### **Customer Profile**

Denver-based Trigon-Sheehan LLC provides engineering consulting services for petroleum and related energy industries. It employs 120 and in 2002 recorded revenues of \$55 million.

### **Business Situation**

Trigon-Sheehan needed standardized project scheduling, creation, and maintenance and greater integration between planning and accounting tools.

### **Solution**

Trigon-Sheehan deployed an enterprise-level project management system based on the Microsoft Office Enterprise Project Management Solution and integrated it with the firm's Wind2 accounting system.

### **Benefits**

- Simplified processes through powerful plug-ins
- More accurate proposals, reports, and forecasts
- Integration of project management and accounting
- Sounder basis for making strategic decisions

### **Software and Services**

Microsoft Office Enterprise Project Management Solution  
Microsoft Project Professional 2002  
Microsoft Project Server 2002  
Microsoft SQL Server™  
Microsoft Windows® Server 2000  
Wind2 Financial Management System

### **Hardware**

Dell PowerEdge 2650  
Dell PowerEdge 4600

### **Partner**

Pcubed, Inc.



“To make the kind of real-time strategic decisions required to maintain our profitability and competitive standing, we needed an enterprise approach to project planning, controlling, and reporting,” Steele points out. “We also needed to ensure that the technology we used to implement this approach was familiar to people at all levels of the organization and included simple and reliable interfaces, robust and scalable tools, and accurate and easily configurable output.”

## **Solution**

Having worked in project controls since 1985, Steele was familiar with the Microsoft project-management products and with Primavera, and so he and his team evaluated both solutions. “At the outset, we considered Microsoft project-management products primarily desktop-level technologies,” he says. “Yet Primavera, even though it is designed for the enterprise, wasn’t right either, due to budget constraints and lack of staff familiarity with the product.”

When Steele and his colleagues evaluated the Microsoft Office Enterprise Project Management Solution, however, they found a match. “In the Microsoft Office Enterprise Project Management Solution, it was clear that the product had evolved to the level required for enterprise application,” he says, pointing to its enterprise approach to project data, enterprise resource pool, enterprise and project-level coding, and support for multiple baselines. Moreover, he strongly believed that the Microsoft Office EPM Solution would be easier to customize than Primavera. “For one thing, the Microsoft Project API has always been available, with an open database architecture that’s very extensible. We also liked its use of Visual Basic language for coding scalable COM add-in solutions for tasks, resources, and projects.”

With the primary goal of forging a strong connection between project management and the corporate cost accounting solution, Steele and his team established a corporatwide Project Management Office (PMO) and began work on an enterprise-level project management solution based on the Microsoft Office EPM Solution. As Steele points out, “The formalization of our Project Management Office was the biggest step toward establishing and supporting a professional EPM solution. By providing both support and direction to the project managers, the PMO gives us an open learning environment and breaks down the perception that professional EPM solutions are hard to maintain.”

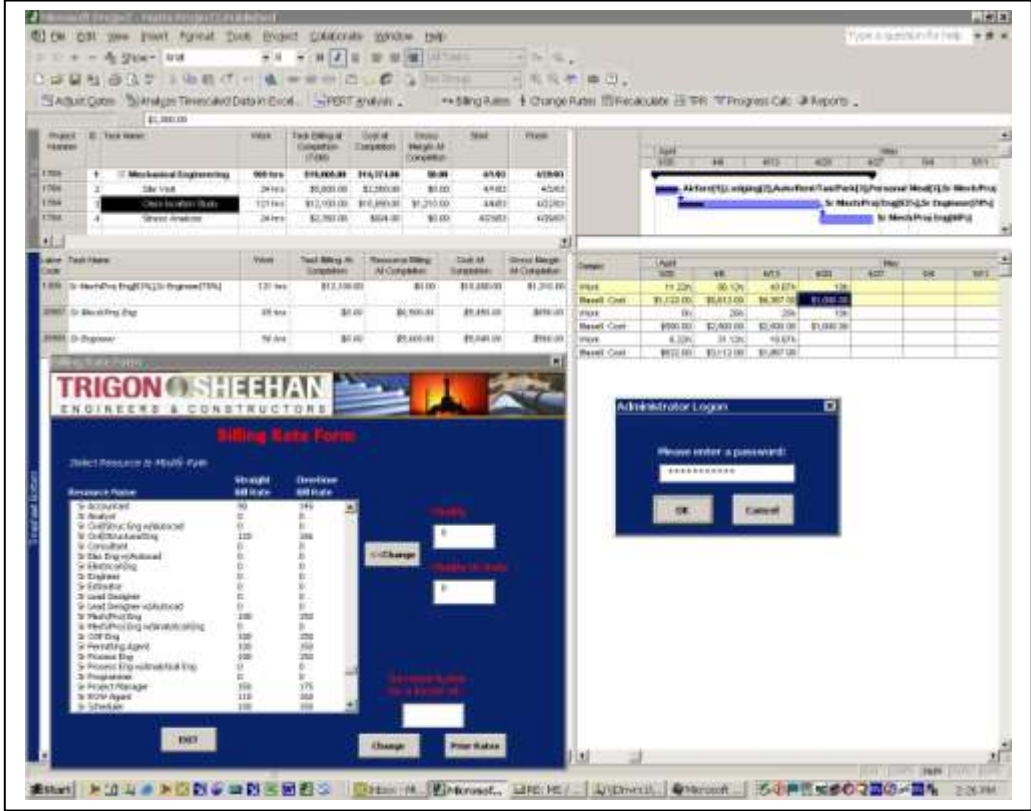
For customizing the Microsoft Office EPM Solution, Steele and his team were joined by Pcubed, a Microsoft Enterprise Premier Solution Provider specializing in EPM deployment and development.

*“In the Microsoft Office Enterprise Project Management Solution, it was clear that the product had evolved to the level required for enterprise application. We also liked its extensibility and ease of customization allowing for scalable plug-in solutions for tasks, resources, and projects.”*

Matthew Steele  
Project Controls Manager  
Trigon-Sheehan LLC

*"[The Microsoft Office EPM Solution] enables us to establish early in the project lifecycle where each team member's work is budgeted and when that work is to occur. This is an excellent way to control creep and scope changes so that projects are more likely to come in on schedule and within budget."*

Matthew Steele  
 Project Controls Manager  
 Trigon-Sheehan LLC



**Figure 1** Through the Microsoft Office EPM Solution, time-phase cost, billing, and gross margin information is made easily available to executive management, project managers, and team members.

**Benefits**

Since the Microsoft Office EPM Solution went live, Trigon-Sheehan has been using it for every project in the company, initially encompassing 60 projects and 300 resources, with four project control engineers. Tasks range from 5 to 2,000 per project, with 40 being the average. Initially, there were 40 licensed users of the solution, including executives, managers, and staff from all departments and working from the company's headquarters in Denver and satellite offices in Tulsa, Oklahoma, and Durango, Colorado. Users at the satellite offices access the solution and the Wind2 accounting software through a terminal-services application and a variety of connection technologies.

**Extensible Functionality Boosts Confidence in Schedules**

As Steele explains, a rich set of add-ins leverage both the desktop and server components of the Microsoft Office EPM Solution. Starting with the estimate phase of a project, the PMO uses these add-ins to distinguish cost and billing rates for each employee and each staff type; link project tasks to the Wind2 accounting system; import actual hours, cost, and billing into the solution; time-phase cost, billing, and gross margin per task; generate project resource reports; and calculate project cost, billing, and gross margin of every task and every project.

"The granular nature of the information we generate from these add-ins boosts the confidence level of the Executive Management Team— including the company's president and chief



operating officer, the vice president of business development, and the vice president of engineering and project management—who participate in the production of project proposals,” Steele says. “This means that when they submit a proposal to a client, they can be comfortable with the figures they’re basing it on.”

Once the contract is awarded, the PMO links the project tasks to the firm’s Wind2 accounting system. From that point, the electronic timesheets from the accounting system are in complete synchronization with the EPM schedule through a link between it and the Wind2 accounting system. “This ensures that the only tasks for which an employee can charge time are those that are in the schedule,” Steele points out. “In addition, it enables us to establish early in the project lifecycle where each team member’s work is budgeted and when that work is to occur. This is an excellent way to control creep and scope changes so that projects are more likely to come in on schedule and within budget.”

### **Greater Accuracy in Reporting and Forecasting**

Twice monthly, Trigon-Sheehan employees use the Wind2 accounting system electronic timesheet. The resulting actual work, cost, and billing is imported into the projects in the EPM system via a bidirectional link between the solution and Wind2. “By combining the actuals data collected from the accounting system and the estimate-to-complete data collected from the project team, we can ensure that our project status reports are accurate and reconcile with Wind2,” Steele says. “For these reports, the PMO reports cost, billing, and gross margin on every project in a timely and accurate fashion.”

As Steele explains, Trigon-Sheehan benefits greatly from being able to move data cleanly and comprehensively between the Microsoft Office EPM Solution and the Wind2 accounting system. “Because we use this accounting system for all our project and corporate cost accounting, it must be integrated with project and task scheduling,” he says. “But to do this internally would have required our developers to tackle the major challenge of learning the inner workings of the system.”

Fortunately, according to Pcubed Vice President Warren Krueger, with the Microsoft Office EPM Solution, they didn’t have to. “This is because of the product’s ability to be easily extended, enabling developers to connect to outside data elements while staying true to their project management processes and the way the data is stored in the repository,” he says.

### **Comprehensive Integration of Project Management and Accounting**

Even when it was still early in the deployment of the Microsoft Office EPM Solution at Trigon-Sheehan, Steele and his colleagues were more than satisfied with the results. “By seamlessly connecting staff with comprehensive project data, and comprehensive project data with our accounting system, we resolved long-standing issues surrounding billing vs. cost rates, project estimating, and integrated project cost and project schedule performance reporting.”

By deploying an EPM solution that is integrated with the company’s Wind2 accounting system, Trigon-Sheehan employees no longer are required to provide duplicate status entry against the tasks that they are assigned. Consequently, actual costs and billing within the solution match directly what is reported in the accounting system, enabling users to be more confident of figures in the management reports.

Steele considers the company’s proposal and management processes to be far more efficient than they were before. “We have complete flexibility about what goes into an estimate and can

*“[W]e resolved long-standing issues surrounding billing vs. cost rates, project estimating, and integrated project cost and project schedule performance reporting.”*

Matthew Steele  
Project Controls Manager  
Trigon-Sheehan LLC

present an amazing amount of data to the client before we ever begin work," he says. "For future projects, we'll have a library of comparisons of past estimates against past actuals. Better still, because the Microsoft Office EPM Solution is integrated thoroughly with Wind2, we'll have these numbers for every task we undertake—yet another factor helping managers at all levels of the enterprise to feel confident about the strategic decisions they are making."

### **Enhancing Teamwork, Boosting Client Satisfaction**

Another advantage of the Microsoft Office EPM Solution is its support for the recording of time against tasks for which a given user wasn't originally assigned. As Steele notes, "This enhances teamwork by freeing project managers from having to add these tasks manually after the fact."

Teamwork is also enhanced through the solution's ease of use. "It was relatively easy to bring people together in this endeavor because most of the Microsoft Office EPM Solution is transparent to users," Steele says. "For project managers, there are simple templates from which to build plans. Moreover, by enabling the transfer of billing-rate tables electronically between projects, the solution helped us to save considerable time in the set-up phase. Finally, because all our managers and staff have user-level knowledge of the underlying Microsoft technology, the learning time was short."

Accuracy, efficiency, teamwork—the advantages of having a Microsoft Office EPM Solution in place directly support the kind of comprehensive client communication and collaboration that Steele and his colleagues at Trigon-Sheehan sought when they first envisioned implementing EPM. And this, he points out, is the ultimate measure of the solution's value. "Our clients, the project owners, are the true beneficiaries of the Microsoft Office EPM Solution," he says. "With it, we can easily keep them informed, before, during, and after project launch, of where our staff time is budgeted, the cost of that time, and the logic behind it. What's more, they can sense immediately whether we understand the scope of the project and how we are addressing that scope. So the return on investment is manifested in our ability to satisfy our clients and, consequently, win more projects. This gives us a significant advantage over competitors who don't have EPM."

*"[Our] return on investment is manifested in our ability to satisfy our clients and, consequently, win more projects. This gives us a significant advantage over competitors who don't have EPM."*

Matthew Steele  
Project Controls Manager  
Trigon-Sheehan LLC

The Microsoft Office Enterprise Project Management Solution is the world's leading project management program that helps a variety of users—from general knowledge workers to expert project managers—easily create and track project plans, manage schedules and resources, and share and analyze project information.

For more information about the Microsoft Office EPM Solution, go to:  
<http://www.microsoft.com/office/project/default.asp>

### **For More Information**

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to:  
<http://www.microsoft.com/>

For more information about Trigon-Sheehan products and services, visit the Web site at:  
<http://www.trigon-sheehan.com/>

For more information about Pumbed products and services, visit the Web site at:  
<http://www.pumbed.com/>

**Microsoft®**

© 2003 Microsoft Corporation. All rights reserved.

This case study is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS SUMMARY.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.