

Malcolm Pirnie

Engineering Firm Increases Client Satisfaction, Cuts Costs Through Optimization

As environmental engineering firm Malcolm Pirnie grew, teams were more geographically diverse and project durations were decreasing due to faster delivery methods. The firm realized that it needed more consistent project delivery processes. It also sought to provide employees with flexible communication and collaboration tools. The firm invested in integrated solutions for business productivity and signed a Microsoft® Enterprise Client Access License Suite agreement, deploying Microsoft Office SharePoint® Server 2007 and Microsoft Office Project Server 2007, plus unified communications capabilities. The firm's employees now can better collaborate on projects, strategize how best to serve clients, and gain visibility into project progress. They also use synchronous and asynchronous communications solutions for enhanced productivity and have experienced significant cost savings.

#### Situation

Malcolm Pirnie is one of the largest engineering firms in the United States that is focused exclusively on environmental issues. As it started to grow from a national to an international organization, Malcolm Pirnie determined that it needed to change the way that it handled many aspects of its business, especially in the area of project management. The processes used at Malcolm Pirnie varied widely, based on the preferences and habits of the individuals who worked at individual locations. "We wanted to establish consistent processes across the organization so that our clients could experience the same service and success regardless of where the consultants and groups they worked with were located," says Janerie Wheeler, Vice President of Information Services and Technology for Malcolm Pirnie.

The firm's leaders established the Process Systems People (PSP) initiative in 2004 and reviewed its major processes. They discovered that several areas—including project management and service delivery—were critical to the firm's success and involved a multitude of individual, inconsistent operational processes. They concluded that, if Malcolm Pirnie could standardize those processes, it could improve client satisfaction, reduce the cost of service delivery, and simplify employees' work lives. According to Bill Kraekel, Director of Planning for Malcolm Pirnie, the overarching goal was "to improve our ability to understand, plan for and meet the needs and expectations of our clients while meeting the professional standard."

#### Inconsistent Project Management

Malcolm Pirnie sought to rectify inconsistent service delivery experienced by its clients. "We're a consulting organization, and clients' perceptions of the entire firm are based on the individuals with whom they work," says Wheeler. "It was natural for clients to expect the same level of service for each project, but that wasn't always the case."

Malcolm Pirnie also wanted to gain better control over the overhead costs associated with individual processes and compress the amount of time it took to start a new project. "With project managers using their own individual methods, it was necessary for those involved in each new project to sit down and discuss how that individual organized communications and wanted to manage the upcoming project," says Wheeler. "If we could determine best practices for the firm and give employees tools to support those processes, then everyone could quickly move from project to project with an implicit understanding of the performance expectations for each role within the project and the way the process would be handled."

The issues related to the firm's inconsistencies were exacerbated when Malcolm Pirnie shifted from assigning location-based project teams to assembling teams that were based on experience and expertise. "We wanted to devote the best people for the specific job, but that meant team members might be located in multiple locations who needed to find effective ways of working together," says Wheeler.

#### Lack of Resource Management

Malcolm Pirnie identified the area of managing resources as one of its greatest ongoing challenges, particularly with its engineers often working on up to 15 projects in the same week. The firm had no one mechanism for adding people to and removing people from projects, determining where they were in their projects, and scheduling their time both to maximize profitable billing hours and to limit downtime.

Also, managers tended to staff projects with engineers they'd worked with before. "Our project teams often had participants who were there due to their availability and location, not necessarily their technical specialties," says Wheeler. "We had situations in which some consultants were overcommitted while others with specific, applicable expertise were not working on the projects to which they could contribute the most."

By not optimally utilizing the right person for the right project, Malcolm Pirnie risked extending project timelines and exhausting valuable individuals. The firm did its best to prevent those scenarios. "We dedicated an immense amount of time to creating spreadsheets and small databases and so on for our more than 100 resource managers who are charged with maximizing short-term utilization," says Wheeler. "But it was a lot of wasted overhead. None of the tools 'talked' to each other, so the managers had to call around to see where there was a need and where there were underutilized resources."

#### Communication Challenges for Project Teams

Resource management was one area where having virtual teams made work more difficult. Communication was another. Project teams used e-mail as their primary form of communication and method for organizing deliverables. Individual project managers typically stored all project-related materials in a local file-based document storage repository. When different Malcolm Pirnie offices were involved, the project managers typically copied files or sent them through e-mail to various places to be used and stored, sometimes as many as seven locations.

This practice not only resulted in an exponential growth in data storage, its inherent lack of version control caused confusion. Employees lost time looking for the most up-to-date document, grew frustrated because they had no clear way of knowing if what they found was indeed the right version, and often resorted to the unnecessary effort of reproducing work that existed somewhere in the firm.

Malcolm Pirnie wanted to decrease the amount of time it took employees to find information. "We viewed it as important to organize information into standardized structures so that employees would always know where to find documents because they're all virtually filed the same way," says Wheeler. "If employees no longer needed to troll around a file server and directory structure looking for the right files, significant project costs related to wasted time could be eliminated."

#### Lack of Management Visibility

Aside from project management, a lack of integrated tools made it difficult for Malcolm Pirnie to handle some of the firm's regular requirements, such as employee evaluations and professional development. Because an employee's direct supervisor is not necessarily the project manager who works with that employee on a daily basis, it was hard for supervisors to manage and develop their employees. "We wanted to find a way to integrate Microsoft Office Project assignments and activities into our timekeeping systems so that supervisors could be informed and better understand if their employees were meeting their project, budget, and time commitments," says Wheeler.

#### Solution

As part of its Process Systems People initiative, Malcolm Pirnie sought an integrated set of tools to support its processes. The firm decided to standardize on Microsoft® products and technologies. "Our experience with Microsoft products and teams indicated that Microsoft had the history, breadth, and stability for us to feel confident based on our major long-term relationship and experience with its solutions," says Wheeler. "Plus, integration is one of our IT Guiding Principles. We felt that Microsoft was the company best able to supply such an integrated environment."

Malcolm Pirnie determined that the best way to approach its upcoming IT projects was to sign a Microsoft Enterprise Client Access License (ECAL) Suite agreement in October 2007. Two core components of the ECAL drove the firm's decision: Microsoft Office SharePoint® Server 2007 and Microsoft Office Communications Server 2007. "We'd identified those products as definite additions we'd like to make to our environment. The financial argument to move to the ECAL was made for us once we discovered that it would cost us less to purchase them as part of the ECAL than separately," recalls Wheeler.

### Introducing a Collaborative Environment

Malcolm Pirnie was excited about implementing an integrated Office SharePoint Server 2007 environment with Enterprise Search functionality. "We decided that the firm needed to migrate to an IT infrastructure that supported just one version of the truth and made finding that version fast and easy," says Wheeler.

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The firm established a "Project Environment" for its project teams. This Office SharePoint Server 2007 –based solution houses a standard template for project managers to use to create a new intranet site for each new project, based on the type of work performed. Available also by initiating a project in Microsoft Office Project Server 2007, the solution demonstrates how the integrated nature of Microsoft products can foster greater collaboration between teams. "Whether it is a major capital project delivery project, an IT development project, or an eco-restoration project, we have built and continue to evolve templates that integrate our project management and project delivery processes," says Wheeler. "Project Environment gets people out of the document-and-spreadsheet mindset and instead encourages them to populate a site with elements that are more dynamic." In addition to internal project teams, Project Environment is available to clients and teaming partners through an extranet.

Malcolm Pirnie also uses Office SharePoint Server 2007 to further its efforts to maintain a focus on clients, especially when Malcolm Pirnie teams work with numerous contacts within the same client company. The firm developed collaboration sites to help it determine how to better respond to each client. Dedicated to an individual client, an intranet site may store live project and historical project records derived from Office Project Server 2007 through links to Web parts in the appropriate project environment site—along with information regarding upcoming opportunities with that client, a record of correspondence, and so on.

Malcolm Pirnie also created intranet sites for employees to use to share professional interests and expertise, perhaps in an emerging technology or a specific area, such as contaminants. "We're working with knowledge teams on an individual basis to define what their sites should include, whether that be document management, different types of tracking, shared calendars, and so on," says Wheeler.

### Providing Up-to-Date Information

Malcolm Pirnie also used Office SharePoint Server 2007 to develop a solution called "MyMetrics," a tool built to support the "People" element of the PSP initiative. MyMetrics proactively provides employees with the information that they need to effectively do their jobs and gauge their individual and team performance. The firm sends targeted information to specific user roles so that employees know on a monthly basis how they are performing. The information is delivered in various formats, including monthly scorecards, intranet sites, and dashboards with historical trending and future projection data, all of which provide transparency for how employees are performing. Says Wheeler, "We've heard salespeople say, 'Before I had my scorecard, I always thought my performance was all about sales, but now I see that it's more holistic. In addition to sales I'm being rated on client satisfaction first and foremost as well as bottom-line profitability.'"

### Establishing Project Management Processes

To further its efforts to establish a single source of all project-related information, Malcolm Pirnie elected to deploy Microsoft Office Project Server 2007 and integrate it with its existing custom time-keeping system and Oracle Enterprise accounting system. Having already developed its desired standardized project management processes, the firm was able to customize Office Project Server 2007 to match its processes, rather than adapting them to fit the product.

Furthermore, Malcolm Pirnie did not want its optimization efforts to cause it to lose the extensive rules that it had already built into its timekeeping system. Approximately 20 percent of the firm's clients are federal agencies, which means that its work is subject to a large number of regulations, often with regard to time and expense keeping.

Malcolm Pirnie IT staff worked with Microsoft Gold Certified Partner Pcubed to integrate Office Project Server 2007 into the firm's timesheet and project accounting systems. The product provides project managers and team members with the visibility to view a 5-week range of time going both backward and forward to see—at a detailed level—all their assignments, understand their budget accountability, and record their time. Because that time gets recorded as part of the firm's timesheet system, Malcolm Pirnie is confident that it meets all the regulatory oversight requirements regarding, for instance, electronic signatures, overtime calculations and approval.

#### Deploying New Communications Capabilities

As part of its optimization efforts, Malcolm Pirnie is moving from Microsoft Exchange Server 2003 to Exchange Server 2007. "E-mail is still a critical tool for us, so supporting our PSP initiatives meant improving our e-mail solution's uptime and resiliency. We could do this by consolidating our e-mail infrastructure and upgrading to Exchange Server 2007," says Wheeler. The firm has seven separate Exchange Server 2003 sites and is consolidating those into one production site and one backup site.

Malcolm Pirnie also deployed Microsoft Office Communications Server 2007 for its instant messaging, presence, and Web conferencing capabilities. Employees are increasingly relying on instant messaging to get quick answers, and they use presence to see which appropriate people are available to provide those answers. "Some parts of the organization thought of instant messaging as a 'chat tool'," says Wheeler. "But when we showed them how it could be applied to a real project, for example, they saw what Office Communicator features could do for them and how to use them to further collaboration. Now business users throughout the firm understand how best to use and apply their tools. The adoption rate has been exponential because the y've talked to each other and spread the word." To minimize business travel, the firm also is using Web conferencing through Office Live Meeting and instead conducts business—both internally and with clients—over the Web.

#### Upgrading the Microsoft Office Product Toolset

As it improved its other processes and systems, Malcolm Pirnie decided to upgrade to Microsoft Office Professional 2007, due to its superior integration with Office SharePoint Server 2007, enhanced user interfaces, Ribbon functionality (part of the Microsoft Office Fluent™ user interface), and the fact that having signed the ECAL made it possible for the firm to cost-effectively do so. "Initially, we planned to wait for clients to push us to adopt Office 2007, but we quickly realized that we were holding up other initiatives by not having those tools," says Wheeler. The firm's goal for the rollout was to minimize disruption to the organization. "Downtime is unacceptable for us," states Wheeler. "Virtually every hour of every day, someone in the firm needs to get proposals out, send and receive reports, and complete a design. Any kind of disturbance to those activities would be an issue for our users."

The firm drew on Microsoft Services consultants for support for the deployment process. "We got help in organizing the multi-day rollout and establishing an engagement plan, from pre-ordering memory to determining user training," says Wheeler. "We also did everything we could to support our users throughout the transition, such as recording tips and tricks for users and posting them on an intranet site along with links and other useful information."

After IT staff members upgraded the computers, they worked with individuals in lunchtime sessions to introduce them to the new product, left behind laminated information sheets on everyone's desks, and stationed someone from IT at every office for several days to help users adjust to the upgrade. As a result of its considerable efforts, the firm's employees are showing high levels of comfort and efficiency with the new products. In fact, 90 percent of its project managers have embraced the new Microsoft Office tools.

#### Planning for the Future

Malcolm Pirnie will be implementing Microsoft Forefront™ Security for Exchange Server and plans to increase its use of Microsoft Forefront products as the firm's security-related contracts for third-party products come up for renewal. "We currently use Trend Micro, but we can reduce costs by moving to Microsoft Forefront Client Security," says Wheeler. "We estimate that we can save \$35,000 annually by moving to Forefront. We also may replace other third-party products as we experience problems, because it's not just a matter of cost but also of quality."

#### Benefits

Malcolm Pirnie has found that its new technology solutions help it achieve its goals of increased productivity, improved client service, and decreased costs. "Change takes time, but our optimization efforts are already making people better at their individual jobs," says Wheeler. "We're using Microsoft technologies to give people information, achieve greater accountability, and positively change employee behavior over time, all of which improve our ability to serve our clients."

#### Enhanced Client Satisfaction

Malcolm Pirnie is consistently meeting—and often exceeding—its clients' expectations now that it has consistent processes and an integrated toolset. "We're experiencing higher levels of client satisfaction," says Wheeler. "They're enjoying the consistent service, superior project plans, and better-organized projects and processes."

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The firm's new skills and tools have been critical in helping Malcolm Pirnie project managers effectively meet their clients' schedules. "As a project manager, I've been able to focus on communicating our client's expectations to the team," says Jim Noonan, Project Manager for Malcolm Pirnie. "I also now can spend sufficient time with my clients to obtain consensus from them on key decisions to keep the project team moving forward."

Clients enjoy the transparency that now is available to them through the Malcolm Pirnie extranet, and they've increased their level of participation in the project-development process. Says Wheeler, "Our clients also appreciate the unified communications tools and the fact that we're using them to enhance, not sacrifice, project quality, particularly when it comes to multi-party teams."

Many of the firm's clients no longer want consultants to fly to meet with them in person because they're cost conscious. Continues Wheeler, "Clients want to see their consultants being as prudent with their money as they are. So the news that we're investing in effective virtual meetings to support their projects has been very well received by our client base."

The firm now provides key information to its partners, too. Malcolm Pirnie built extranet sites for collaboration with outside organizations with which it has formed alliances. The alliance firms use the extranet site to track conferences at which they might present, share calendars and resources, and discuss issues and opportunities.

#### Improved Project Management

The firm is achieving greater consistency among its project managers because now the managers have effective tools to help them plan and carry out a project. What's more, Malcolm Pirnie has enjoyed the flexibility to customize those tools to support the best practice processes that it had established. "From a project management perspective, we've seen our staff become much more engaged and proactive about what they're doing just by the very nature of the processes and tools they now use," says Wheeler.

Because of the integration between Office Project Server 2007 and Office SharePoint Server 2007, employees take advantage of project templates and use collaboration sites to ensure that all project participants have the information that they need, which helps them be more accountable for their progress. "Just finding the right version of, for instance, a risk plan, used to be a challenge. Having changes and other critical information highlighted right on the home page of a project's Web site helps save time that employees used to spend locating information," says Wheeler.

### Greater Employee Productivity Through Collaboration

With the new solutions, the firm has found that its project managers and engineers can get more done in less time. "Employees are using instant messaging and presence to get immediate feedback without being too disruptive or having to go to multiple people, and that speeds their efforts to complete tasks," explains Wheeler.

Especially when working on multiple projects in global locations, teams need strong asynchronous communication and collaboration. "We don't want people to have to always be up late or in early just to have a conversation," says Wheeler. "With Office SharePoint Server 2007, great collaboration can occur without both parties having to work simultaneously." All conversations are retained as part of the project record and are an important addition to the knowledge base. "The records help us understand how we made decisions throughout the course of a project and contribute to our ongoing efforts to establish best practices and benefit from lessons learned

Continues Wheeler, "With both asynchronous and synchronous communication capabilities at our disposal, we can do whatever is best for the client, project, team, or individual at a given time for greatest productivity."

Also, using the Enterprise Search capability in Office SharePoint Server 2007 is helping the firm avoid the duplication of effort that it dealt with in the past. Employees can quickly locate the right version of the right document and therefore make greater reuse of the firm's knowledge assets and increase their individual efficiency.

### Better Business Intelligence

Employees and managers alike now have much more information at their fingertips, which means that they have heightened visibility into their projects. "The new solutions provide better data regarding who's made budget, who hasn't, and so on, which means that employees and managers can have better conversations," says Wheeler. "And employees are better able to determine how much time it will truly take them to complete their tasks and can use the new project management capabilities to easily keep the project manager informed of their estimates-to-complete at the end of each week."

By offering employees new capabilities and access to data that they did not have before, Malcolm Pirnie is helping them make more valuable contributions to the project process. "We're providing a more subtle way for individuals to learn—through their own experiences and processes—to become better project and resource managers. It's much better than forcing education or behavior change on them," says Wheeler.

### Significant Cost Savings

Using its new capabilities, Malcolm Pirnie is generating cost savings throughout the firm. By consolidating its messaging environment, it has reduced administrative time and eliminated the need for much of the firm's expensive messaging server hardware, which has saved U.S.\$25,000.

In making use of unified communications, particularly Web conferencing, Malcolm Pirnie already has reduced the amount of travel required to work on projects. "We're even using video and Web conferencing to help expand our global work force because we can conduct 'face-to-face' interviews with prospective employees in India without the need for anyone to spend the time and money to travel there," says Wheeler. "Our annual discretionary overhead travel budget is \$4 million, and our conservative goal is to reduce that amount by 10 percent in the first year."