

TUI Consulting Relies on Rational ClearQuest to Efficiently Build and Integrate Custom SAP R/3 Modules for Utility Company

TUI Consulting has created a seamless project team across two countries, linking programmers in Australia and business analysts in New Zealand through Rational ClearQuest™'s ability to provide change request management across the entire development team, no matter where developers are located. As a result, TUI is nearing completion of a custom SAP implementation that provides the integrated functionality its client needs to succeed in the newly deregulated utility industry.

True to its name, Total Utilities Integrators Consulting (TUI Consulting), provides enterprise business solutions to utility companies in Australia, New Zealand and the U.S. These solutions include both strategic consulting, to enable utilities to meet the increased challenges brought on by industry deregulation, and systems integration services to help clients implement integrated utilities solutions based on SAP R/3 enterprise resource planning and customer care systems.

One of its largest customers, a major New Zealand energy provider, brought in TUI Consulting to conduct a comprehensive review of its electricity retailing operating processes and IT systems to ensure that the company was on the right track to succeed in the recently deregulated electricity industry. TUI began implementing the core modules and customer care component of SAP R/3 in January 1998, replacing a legacy, mainframe-based application that could not support the new billing practices required in the "newly contestable" market. The SAP customer care software provides a customer service and mass billing system, and is being custom-integrated into a Siebel-based marketing and sales system.

But when TUI began the implementation, neither SAP nor third parties offered suitable Real Time Pricing (RTP)

modules that would enable the utility to identify a customer's usage patterns, provide quotes for expected power usage, and provide real-time billing. Yet TUI's New Zealand client needed these capabilities for its retail business operation to land and retain large industrial and commercial customers. "If the company can't make sure that its bills are correct, that its prices are competitive, and that it provides accurate quotes for expected usage to large customers, it will lose its subscribers to competitors," says Ray McConnell, Consulting Manager at TUI. To meet these critical needs, TUI was engaged to custom-build the necessary applications.

The Need to Integrate Widely Dispersed Project Teams

The scope of the project is large, with more than 120 classes – or application layers – created by TUI in the process of building the Real Time Pricing modules and integrating them with the SAP customer care component. Correspondingly, the project team is large as well, consisting of about 25 people. These include half a dozen business analysts performing requirements analysis and creating functional specifications, 14 developers writing ABAP (Advanced Business Application Programming) and integrating via SAP's DCOM Component Connector, and five

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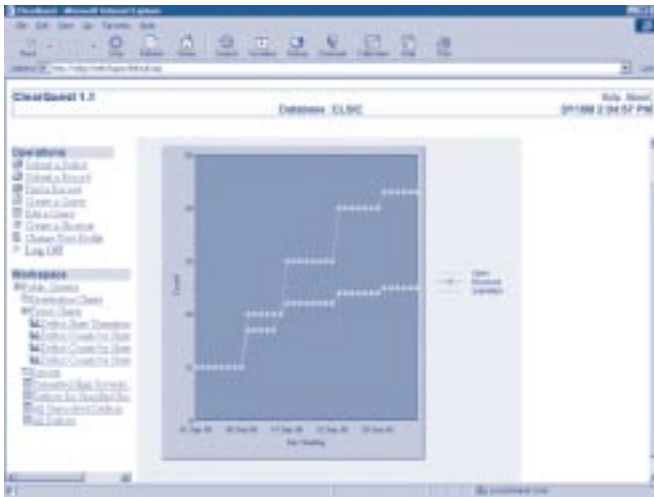
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Full web support allows users to submit, query, modify, report, and chart as they would from their native client machine.



support and test engineers. Each of the five different systems under development has its own team of analysts, developers and testers who are responsible for tracking and fixing the defects in their particular system.

As the project advanced and TUI began releasing the modules to the client for onsite acceptance testing, the team faced a critical challenge in the defect tracking process; most of the module teams divided at this point. The functional analysts went to the client site in Auckland, New Zealand, while the developers remained 1,625 miles (2,615 km) away at TUI's Melbourne headquarters. The analysts in Auckland needed a way to remotely track the progress of defect resolutions and enhancement request implementations in Melbourne. And the success of the entire project depended on seamlessly integrating the different project roles (analyst, developer and tester) of the geographically distributed teams in the change process.

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In addition, the solution had to support both Windows and UNIX – the SAP-based client/server system the team is developing runs on a Sun Microsystems Ultra Enterprise 6000 database server, Sun Ultra Enterprise 3000 application servers, and supports end users with a front end on Windows NT/95 PCs.

Rational ClearQuest Unites the Distributed Team Via the Web

TUI chose Rational® Software's ClearQuest change request management solution. Rational ClearQuest met TUI's need for both UNIX and Windows support and, even more importantly, ClearQuest's Web interface has unified the Auckland and Melbourne teams. In fact, only Rational provides change management across the entire team, unifying cross-functional groups by automating the flow of change requests as they move from team member to team member. ClearQuest's Web interface enables all of TUI's project team members to submit, track and manage change requests such as defects, enhancement requests and document modifications throughout the software development cycle.

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The successful use of other Rational Software solutions on the project was also a factor. These are Rational Requisite®Pro, to create and track requirements; Rational Rose® for visually modeling the system; Rational SoDA® for automating software documentation; and the Rational Unified Process™ for managing the full software lifecycle engineering process.

"We initially selected the Rational Rose and Objectory methodology (now the Rational Unified Process) to ensure that our developers would understand and follow Object-Oriented Development," explains McConnell. "When we selected SAP as our development environ-

ment, we investigated ABAP 4.0 and concluded that it provided the basic provisions for OO development. By using RequisitePro, Rational Rose and the Rational Unified Process, we could track requirements from definition to implementation. We are now hoping to become a beta site for testing the integration of Rational Rose to SAP ABAP 4.5. This would complete the cycle as requirements can become classes which can then be generated automatically through SAP."

Continues McConnell, "We brought Rational ClearQuest in in July of 1998. The evaluation process was very straightforward. ClearQuest was a logical extension of the other Rational products which we already were using and trusted, so we simply made sure that it could track the necessary defect information and that we could access it remotely via the Web. We quickly got it up and running, verified the Web access, and that was it.

"We now have a client/server license for Rational ClearQuest in Melbourne, which allows us to maintain a common repository there where most of the reporting is done, while ClearQuest with Web client access at the customer site in Auckland enables those users to log and track progress remotely," explains McConnell. He notes that ClearQuest's web interface provides almost all of the features and screens that are available through the desktop client.

"The most important need that Rational ClearQuest meets from a high level is tracking," says McConnell. "We need to be able to report accurately on just where we are with outstanding issues, and to show steady progress in our weekly reports.

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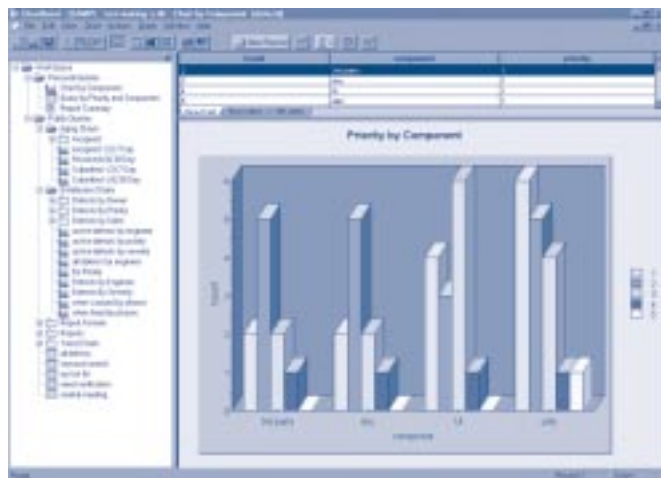
least 30 percent. Which is why we now have a strict rule that all problems must be tracked through ClearQuest."

Driving Productivity

In addition to solving the challenge of remotely tracking problem resolution, notes McConnell, ClearQuest provides additional capabilities that increase the development team's productivity, including:

- **Easy customization.** Using the 'Designer' facility in Rational ClearQuest, a TUI developer was able to quickly customize screens to capture additional information for defect logs. "The developer had used ClearQuest before, so he was able to jump on it pretty easily," says McConnell. "Since then, we've had other people come on and extend it as well, and they've had no trouble understanding how to do it." The enhancements – principally the addition of more options in pulldown lists that let developers specify priorities and task status – enable the development team to better monitor and control the flow of work.
- **Detailed querying and reporting.** Users created a variety of queries and status reports showing which defects have been allocated to individual developers, how many have been resolved, etc. "We can see

Powerful reporting and charting capabilities make assessing project status easy.



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how busy people are and how much work they've done. We can also see how far along we are in fixing the high-priority bugs, which is necessary to move the system toward its operational release," McConnell says.

- **Efficient scheduling of work.** "Because the functional and development groups work in isolation from one another, there is no other way that we would be able to track problems unless there's one common source, and that's what Rational ClearQuest is for," says McConnell. "Because the developers (who are also responsible for fixing the bugs) may not have contact with the person who's logged the problem, they usually work independently in finding and fixing it."

Three 'technical architects' – i.e., lead developers and project overseers chosen by McConnell – use Rational ClearQuest to control the flow of work, ensure that tasks are assigned to the right developers, and that all work contributes to the efficient completion of the overall system. The architects sit, figuratively, in the middle of the development process. They accept requirements from the business analysts, figure out how best to meet those requirements and correct defects, assign the particular tasks to developers, then assure that all the pieces of the puzzle come together in a comprehensive enterprise system. "The technical architects understand both the functionality we're trying to build and how to actually build it in SAP," says McConnell. "They're knowledgeable

enough to validate a requirement for a change coming from our business analysts, and they're also capable of managing the development group to see that the changes get made, in the right priority. ClearQuest is critical for us as a mechanism for achieving a productive environment in which it is always clear which developer should be working on the next high-priority issue."

Rational ClearQuest has played an important role in keeping the project on schedule, with all applications currently in the final stages of integration testing. The end result will be a utility company better able to compete – and succeed – in an industry that, because of deregulation, has become far more competitive.

"The biggest advantage of the SAP environment we are implementing is that it gives our utility client one integrated solution for executing on the strategies they must have to be competitive," says McConnell. "They will be able to more effectively serve their customers by accurately assessing their energy usage requirements, making sure that their complex bills are correct, pricing their services accurately, and offering discounts that are competitive.

"Rational ClearQuest has been a key enabler in the process of delivering this solution," concludes McConnell. "ClearQuest has bridged the vast distances between our individual experts and eliminated cross-functional barriers, uniting our analysts and developers into a team that's as tightly coordinated as if they were sitting side by side. Without ClearQuest, we simply could not have kept this complex project on track as smoothly, efficiently, and cost-effectively as we have."

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