

Industry:
Software

Organization:
Peace Software

Description:
Peace Software is a leading provider of advanced customer management solutions for utility and retail energy companies. The company delivers the most comprehensive and cost-effective customer and commodity management solution that enables utilities and energy retailers to attract and retain customers, as well as become more efficient and profitable.

Business Problem:
Peace Software's development operations were growing rapidly and they needed a scalable software configuration management system that was seamlessly integrated with a defect and change tracking system.

Rational Solution:
Rational ClearCase, Rational ClearQuest, Unified Change Management, Rational Services

Key Benefits:
Reduced build times from 36 hours to 30 minutes

Scaled the development operation by providing teams and individuals with virtual private versions of the source code and advanced branch and merge capabilities

Minimized developer contention for source code to increase development efficiency

Improved developer productivity through quicker builds and the ability to work in isolation

Rational software

Peace Software Meets Explosive Growth Demands with Rational ClearCase, Rational ClearQuest and UCM

Ahead of the Curve

Peace Software, Inc. is a company with vision. Back in 1995, at a time when Netscape 0.7 Beta was the latest and greatest browser, Peace Software pioneered Internet customer service in the utility industry. Today, while there are still few industrial strength browser applications in the industry, Peace is working on the fourth generation of that technology, and increasing its competitive advantage.

But that is not the only area in which Peace Software is ahead of the curve. Peace delivers the most comprehensive and cost-effective customer management solutions for utility and retail energy companies. Its industry-leading Energy™ suite is being rapidly deployed in 30 international energy markets. Based on industry standards, the innovative Energy suite integrates customer and commodity management for C&I (Commercial and Industrial) and mass markets. Peace initially deployed the Energy suite in New Zealand, which deregulated in the late 1980s ahead of the rest of the world. Now as utility companies worldwide find themselves in deregulating and much more competitive businesses, Peace's proven software and wealth of experience is in high demand.

Peace Software has experienced a period of explosive growth over the past few years, both in its business and in its development operations. As its development team rapidly doubled in size, Peace began to outgrow its existing software configuration management and defect tracking systems. When Peace needed advanced, team-based tools to scale its development center and keep pace with the growing demand for their Energy software, they turned to Rational® Software for the industry-leading tools they required. After an extensive evaluation of possible solutions, Peace deployed Rational ClearCase®, for software asset management, and Rational

ClearQuest® for defect and change tracking. When combined, Rational ClearCase and Rational ClearQuest enable Unified Change Management (UCM), Rational's powerful, out-of-the-box workflow for automating change across the software development lifecycle and across distributed, multi-functional development teams. The integration of artifact and activity management in UCM was an important factor in Peace's decision to use Rational tools.

Paul Grey, Executive Vice President of Technology at Peace, takes pride in the company's development organization, and notes that Rational tools are an important part of its success. "Our Energy Development Center is in Auckland, New Zealand and we have implementation and deployment teams in four countries. New Zealand is a great place to develop software. Our development center is probably the largest software development operation in New Zealand, certainly the largest working on a single product, and perhaps one of the largest anywhere working exclusively on customer management software for the energy industry. This gives us a competitive edge in our vertical market. Having Rational ClearCase and Rational ClearQuest is a big part of being a world-class software development organization and a world leader in our target market."

Building A Business Case

Grey has been with Peace Software for thirteen years, during which he helped grow the development operations from one person — him — to three people in the first year, to about 250 researchers, analysts, developers and testers today, with plans to add 50 more by the end of the year. In the very beginning, there was little need for software configuration management tools. Eventually as the team grew, Peace implemented a system that they developed themselves. This system worked



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well while their development team was still fewer than about 40 people. With a working system in place Peace wanted to make absolutely sure that any new tools they brought in would add enough value to justify the change.

Grey notes that he and his team spent almost a year evaluating different options and building a business case before they made the final decision to use Rational ClearCase and Rational ClearQuest. He explains, “Part of our growth strategy as a company was to substantially increase the size of our development operation and our software development capacity around our Energy product. When we were first looking at Rational tools our development center had just grown from 40 to about 100 people — so we had experienced very substantial growth. While we were very proud of the way we had done things, we could start to see cracks appearing as we grew. Not because we were doing things wrong, but simply as a result of the growth and demands from our growing business and client base. Because we had in-house tools that had a certain level of functionality, we had to make sure that any new tool we brought in offered those same functions and more. It might have three new features, but if it was missing five other features we couldn't justify it.”

In Rational ClearCase and Rational ClearQuest, Peace found tools that linked defects and change requests with the source code changes that were made to fix or implement them. This UCM approach was similar to its existing Methodology at Peace (MAP) process, but added much needed support for larger development teams, parallel development, and private work areas to manage contention. Grey adds, “We found that while our product is a very broad one with many thousands of source files, we noticed that at any particular time there was a lot of development activity around certain parts of the product. That meant developers and development teams were starting to have contention for particular pieces of source code, and that was reducing our development efficiency. One of the primary factors that allowed us to build a business case to move to

Rational ClearCase and Rational ClearQuest was to support the growth in our development operations. Rational ClearCase provides our teams, workgroups and individuals with a virtual private version of the source code, and advanced branch and merge capabilities to support the coordination of all of those into single product releases — which enabled us to scale our development operation.”

From 36 Hours to 30 Minutes

The Peace development team saw the transition to Rational ClearCase and Rational ClearQuest as an opportunity to reorganize some of its more than 4 million lines of source code, and to improve its existing make files and build process. Grey explains, “We wanted to start with a clean slate with the Rational tools. As part of our migration, we did a major cleanup — or housekeeping — of our source code to improve maintainability. We also made a considerable investment in new make files; and we migrated to a different compiler that used a more intelligent linker. All of this was done as part of the migration to Rational tools and has resulted in a dramatic reduction in build time for a version of Energy. This goes hand-in-hand with the idea of a virtual, independent development space for a developer. It is no good if you have 200 developers and each time someone wants to rebuild the product it takes on the order of 36 hours to complete the compile process. We were able to reduce that time to about 30 minutes. We integrated all of our new methodology into the Rational ClearCase environment. It all worked hand-in-hand; Rational ClearCase was an enabler for us to build these new make files. We couldn't have done it without Rational ClearCase.”

Rational ClearCase enabled Peace to scale its development center and improve developer productivity — through quicker builds, and the ability to work in isolation. But, according to Grey, Peace has realized several other benefits as well, “With our growth, we went from doing one major implementation at a time, to several at a time. Rational ClearCase has enabled us to manage the multiple concurrent development efforts. Rational ClearCase gives us not

just the ability to support more developers but to support more concurrent projects. Also, functionality we build specifically for one customer eventually works its way into the general release. We're currently operating on a quarterly merge cycle. So we are using Rational ClearCase to merge all client-commissioned and strategic development features into our core product source code base on a quarterly basis. And, once we've completed a major release, Rational ClearCase gives us the ability to reconstruct a specific version to investigate software issues or for any other purpose. The ability to do that quickly and easily is very important to us."

A Company With Vision Gets Better Visibility

As valuable as Rational ClearCase is to Peace Software, it is only half of the UCM story. Rational ClearQuest is the other half, and is used by Peace to assess project status at any time, allocate resources, track change requests and defects, and associate those requests with developer activities. Murray Allen, Product Partners Manager at Peace, helped implement Rational ClearCase and Rational ClearQuest and continues to help ensure that Peace and Rational get the most value from their relationship. With Rational ClearQuest, Peace has extended its ability to determine the status of a project, and has enabled project teams around the world to track specific jobs remotely, via the company intranet and Rational ClearQuest's Web interface. Allen observes, "Rational ClearQuest is a tool that allows us to monitor progress, understand why changes are being made, and see who has been working on a particular change. Rational ClearQuest has given us better visibility into the exact state of the project. UCM and ClearQuest allow us to manage the process a lot better, and understand what is taking place and when. It also shows us clearly where our resources are deployed."

Rational ClearQuest is used by numerous groups at several geographically distributed locations throughout Peace. "Our help desk and test team leaders enter incidents in Rational ClearQuest. Our Product Delivery

Office, which schedules all the work, uses Rational ClearQuest as its reporting tool; and so do our project managers. Then we have our release management team who also control and manage deliveries and merges. This team uses both tools — Rational ClearCase and Rational ClearQuest," Allen reports.

Rational ClearQuest is a highly flexible defect and change tracking tool and is easily customized to fit existing processes. Grey notes that the transition from Peace's internally-built system to Rational ClearQuest was an easy one. "When we moved to Rational ClearQuest we didn't have to change the way we did things, we could use the same process." For Grey, Rational ClearQuest's reporting capabilities are a key advantage. He adds, "Rational ClearQuest reports are very useful because they integrate Rational ClearCase source code information. A lot of our project managers deal with hundreds and hundreds of individual jobs in progress at any one time, and ClearQuest's structured reporting is essential to support the management of all that activity." While the Energy Development Center is in Auckland, Grey works in the corporate headquarters in Miami, Florida. With Rational ClearQuest, Grey is able to monitor the development process of each project as it progresses.

A Migration in One Weekend

Of course, before Peace could start realizing the benefits of its new Rational tools, it had to replace its existing tools with Rational ClearCase and Rational ClearQuest. Considering that Peace was simultaneously migrating to new tools, new make files, a new linker and a streamlined version of the source code, the potential for problems was high. However, with thorough preparation by Allen and the Peace Software team, and some help from Rational consulting services, the entire process went smoothly. Allen remembers, "We had Rational consultants work with us during the analysis and requirements phase, as well as during implementation — both gearing up to implementation and following it. Ed Percy, from the Rational office in Auckland, was the implementation project manager, and he was exceptional. He worked well with our teams, and was

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really valuable to us. He assisted us in determining how we could best use the tools to suit our purposes — and gain the most efficiency, and he also assisted us in implementing the tools. He also helped develop and deliver the training material.”

Grey agrees that the Rational consultants in New Zealand played a crucial role in the success that Peace has had with Rational tools, “The opportunity to partner with Rational in New Zealand was a big factor in our evaluation process. We were very impressed with the approach of the Rational team.”

In the end, the team decided to install Rational ClearCase on a 32-processor IRIX machine — one of the biggest in New Zealand at the time. Percy reports, “I helped set out the implementation strategy, but the Peace team did most of the work.” In fact, the Peace team completed the entire switchover in one weekend, without outside assistance. Allen explains, “There was a lot of migration and conversion of information needed in order for us to take it from our old system and put it across into the new system. Basically, we went live over a single weekend, with minimal downtime.”

Indispensable Tools

Allen reports that Rational ClearCase and Rational ClearQuest have become indispensable for the Energy Development Center, “Now we’re using the tools, and we wouldn’t dream of changing them or moving to anything else. We have customized them to suit our purposes as well. A number of our more recent recruits have used the tools elsewhere, have found them to be efficient, and easy to use. Similarly, our people here are using them and are very satisfied with the way that they work.”

Allen concludes, “Scalability was a big issue for us. We needed to be able to scale our development operation, and with the tools that we had in place we couldn’t do that. Rational ClearCase and Rational ClearQuest have allowed us to scale our development operation and bring additional developers in, and manage our environment to develop a quality product. At Peace, we are continually looking to improve the quality of our process and our

application, and Rational tools are certainly having a significant impact, and are a significant contributor to that effort. They have provided us with better insight into our development process, and have improved our ability to manage enhancements and software issues across our software development life cycle.”

A Platform for the Future

In the utility industry, there is a long history of large mainframes managing hundreds of thousands of users. Applications for these mainframes were either developed in-house by IT departments, or outsourced to consulting firms. Peace offers a better alternative because they provide not just a proven solution to their clients, but also periodic upgrades that include the latest technology. Together with Energy’s native Web support and integrated e-commerce functions, this approach is a significant advantage to Peace’s clients, and a driving force behind Peace’s growth.

Grey is proud of that growth and what Peace’s development organization has achieved using Rational ClearCase and Rational ClearQuest. “Rational tools have been an important part of our growth path. These tools have extended our world-class operation so that we can expand and broaden into new markets, and continue to be a place that developers aspire to work. We think of Rational as our partner and we depend heavily on Rational tools now and as a platform for the future.”

About Rational

Rational provides a software development platform that improves the speed, quality, and predictability of software projects. This integrated, full life-cycle solution combines software engineering best practices, market-leading tools, and professional services. Ninety-six of the Fortune 100 rely on Rational tools and services to build better software, faster. This open platform is extended by partners who provide more than 500 complementary products and services.

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