

# Ohio Casualty relies on IBM Rational Testing Solutions to improve quality and ensure compliance with federal and state regulations.

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## Overview

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### ■ **The Challenge**

*Ohio Casualty needed an effective way to improve the quality of their applications, while lowering costs and verifying compliance with continuously evolving regulatory requirements—at both the state and federal level.*

### ■ **The Solution**

*IBM Rational testing products help ensure quality and regulatory compliance. The company also adopted a more service-oriented approach, supported by the IBM Rational Software Development Platform, IBM Rational Unified Process methodology, and IBM Information Management products.*

### ■ **The Benefit**

*Ohio Casualty has passed numerous internal and external compliance audits without problem. Individual productivity and team efficiency have increased. They are better able to govern their development efforts and teams are better able to communicate—resulting in less re-work, higher quality software, and faster time to market.*

With more than \$1.45 billion in premiums written as of December 31, 2005, the member companies of Ohio Casualty Group® offer auto, home, and business insurance products and are licensed in 49 states. Products are distributed through 3,500 independent agencies countrywide. The company relies on a software development team of more than 400 analysts, developers, and testers to deliver systems that comply with both evolving federal and individual state requirements, while enabling underwriters and agents to work efficiently. Governing development is the key to delivering compliant systems in this dynamic business environment.

“Developing software systems for the insurance industry is extremely complex,” says Mark Robinson, assistant vice president of Information Systems Administration Unit for the Ohio Casualty Group. “A system that writes personal line policies, for example, must not only meet our own business requirements but must also support every relevant state rule and federal regulation. There are a million combinations. When you have a

system that complex, with that many variables, the testing effort is monumental.”

To consistently deliver high-quality software systems that comply with applicable government regulations, Ohio Casualty is using the IBM Rational Software Development Platform for automated functional and performance testing, process management, and change and configuration management. “Our goal was to improve the quality of our software applications by implementing a standardized software development process supported by best-of-breed tools. With the IBM Rational® testing products and IBM Rational Unified Process® methodologies that we have implemented, we have been very successful in doing that cost-effectively. The Rational testing solutions are enabling us to build comprehensive automated regression test suites; to rapidly validate new functionality is working as required; and to verify that nothing else has been broken along the way,” Robinson notes.

### **Applying a Proven Development Process**

IBM Rational Unified Process, or RUP®, has supported Ohio Casualty compliance and testing efforts, while enabling the entire team to leverage a proven methodology throughout development. “With RUP, we implemented a testing methodology that enables us to do more focused testing, and get the most beneficial results possible,” says Robinson. “At the same time, implementing RUP has allowed us to standardize our overall development process in concert with our project management methodology. We are better able to manage our efforts and run our projects more efficiently. As a result, we have improved the quality of our software, reduced re-work, and shortened our time to market.”

Robinson adds that RUP was also a significant advantage in meeting compliance requirements. “We leverage RUP heavily to meet many of the Sarbanes-Oxley requirements. With RUP, we were already requiring our team to verify and sign-off on certain architectural and requirements documents. We have had internal and external audits of our Sarbanes-Oxley compliance. Combining RUP with our own project management methodology really contributed to our ability to pass those audits with no problems,” says Robinson.

### **Implementing P.A.R.I.S.**

One of the largest initiatives the Ohio Casualty team has undertaken using IBM Rational solutions is the implementation of a new Policy Administration, Rating and Issuance System, or P.A.R.I.S.<sup>SM</sup>, which is currently used to write commercial lines of business and is being developed to write personal lines. The company based the new development effort on reusable components and a service oriented architecture (SOA).

As part of its move toward component technology and SOA, Ohio Casualty is using the IBM Insurance Application Architecture (IAA). “We are using the IAA model to develop frameworks, increase reusability, and provide as much efficiency as possible for Ohio Casualty,” says Robinson. “As we move forward with SOA and component-based systems, we are already seeing a significant amount of component reuse in our organization.”

### **Ensuring Quality and Compliance**

While developers use IBM Rational Application Developer to develop P.A.R.I.S., primarily in Java, the Ohio Casualty testing team relies on several IBM Rational testing products, including IBM Rational Manual Tester, IBM Rational Functional Tester and IBM Rational Performance Tester.

“We are leveraging IBM Rational heavily to test our system as we roll it out,” notes Robinson.

The testing group met with business analysts to determine what tests would be the best candidates for test automation. Following that meeting, testers began using Rational Functional Tester to assemble a regression test suite that has now grown to 600 test scripts. “Currently, more than half our regression suite is automated and the rest is performed manually using Rational Manual Tester,” explains Penny McVay, Manager of Testing Services at Ohio Casualty. “Because we run our regression tests at the beginning of the development cycle, we can find defects much earlier, when they are less expensive to resolve.”

To streamline the process of developing and maintaining tests for each state’s specific regulations, Ohio Casualty has implemented a data-driven testing approach, which allows a single test script to tailor its test sequence and expected results by reading configuration information from a file. “Instead of having to write a separate script for each state, we can customize them with data in tables. We have a smaller number of test scripts to maintain, and we can reuse them repeatedly without modification,” McVay reports. The team logs results automatically

using Rational test management capabilities and enters any identified defects in IBM Rational ClearQuest®, which the entire team uses for defect tracking and change management. The team is also working on plans to use IBM Rational RequisitePro® for requirements management. This will enable them to automate the process of tracing requirements from project inception to user acceptance testing and to improve their ability to ensure regulatory compliance.

### **Verifying Performance**

In addition to functional tests, the Ohio Casualty testing team also load-tested P.A.R.I.S. using Rational Performance Tester. In production, P.A.R.I.S. runs on an IBM WebSphere® Application Server with an IBM DB2® back-end. By executing performance tests before deployment, the team can identify performance issues and determine how the company's applications will perform in their operating environment under the expected user load.

"We use Rational Performance Tester extensively on many of our Web-based applications and it has shown its worth in gold. We start with a few virtual users, and gradually add more to locate performance problems. We run up to 500 concurrent virtual users, which is significantly more than many of our typical applications would have," explains McVay. Robinson adds, "Rational Performance Tester has been tremendous in helping

us identify bottlenecks and work through them so our users never have to experience them."

### **Short Learning Curve**

A typical testing team for an Ohio Casualty project includes a test manager, a test analyst, and one test engineer. Complementing this core team is a group of interns from a local university. The interns typically have limited experience with testing, and they are with the company for only a short time. As a result, their effectiveness depends on their ability to become productive rapidly. "The interns average about three months with us. Rational testing products have been crucial because we needed tools and an environment that allowed us to get them up to speed quickly," says Robinson.

McVay adds, "We have two groups of interns. One group performs manual tests, and a second group of interns with more Java experience writes and executes automated scripts. The manual testers are up and running the first week and the Java group is writing automated test scripts within two weeks."

To accelerate the initial deployment of the testing tools and the RUP methodology, Ohio Casualty engaged IBM Rational services and

IBM partner, Number Six Software, Inc., for training and support. "IBM and Number Six helped us efficiently implement the tools, processes and methodology, without disrupting our workforce," McVay recalls.

### **Managing Test Assets**

The interns enter and track defects with Rational ClearQuest, and they use Rational test management capabilities to organize test scripts. In addition, the testing team uses IBM Rational ClearCase® LT for version control of the test scripts.

After initially using Microsoft Access as the repository for defect tracking and test scripts, the team switched to IBM DB2. "We found that Microsoft Access was not stable enough for the amount of data we were storing in it," says McVay. Robinson adds, "In addition, we wanted to standardize on one database—and DB2 is our database of choice enterprise-wide."

### **Support for Geographically Distributed Development**

Although Ohio Casualty completes the vast majority of its development initiatives in-house, the company also contracts an offshore development group for some projects. By requiring this group to use the same development tools and RUP methodology, the entire team is able to communicate more efficiently. For example, using Rational ClearQuest, the contractors

have access to the same, up-to-date defect and change information as the in-house team.

Robinson adds that the products in the IBM Rational Software Development Platform have helped to promote a common understanding throughout the Ohio Casualty development team. "With a common methodology and common platform, everyone is speaking the same language. As a result, we all have a better idea where the project stands, throughout the project life cycle," he notes.

### **Flexibility, Quality, Productivity and Customer Satisfaction**

For Ohio Casualty, a key benefit of adopting IBM Rational solutions and processes is a more flexible workforce. Robinson explains, "When we started to look at software methodologies, we knew we had a good team in place, but they were assigned to smokestacked areas. We wanted our staff to be more fluid. We were very dependent on the people and we wanted to move toward being more dependent on the processes. With the IBM Rational Software Development Platform everyone—including the business and information systems (I/S) team—executes a project based on a common language and roadmap. We have much more flexibility in moving

staff from project to project. Also, the business team and I/S team are in constant communication throughout the project life cycle, enabling us to be successful more consistently and allowing the corporation to make necessary changes in a timelier manner."

For McVay, leveraging testing tools within an established process framework was a significant advantage. "We implemented the tools around solid processes which reduced our risk. The quality of our software has improved; and we have improved time to market of our project delivery with less re-work," she explains.

Robinson adds, "The IBM Rational Software Development Platform has met all our expectations. It provides the structure, the stability, the benefits that we were looking for to improve our software development process life cycle. We are more productive because all team members understand each step in the project life cycle and why it is important to the project's ultimate success. As an organization, we are more professional in our approach to delivering projects which has resulted in improved customer satisfaction."



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