Radio Caracas Television speeds development, lowers costs, and ensures regulatory compliance by using IBM Rational software.

Overview

- ***The Challenge***
  Radio Caracas Television (RCTV) used a labor-intensive process to manage real-time scheduling, commercials, programming, and promotions. To respond quickly to changing government regulations and avoid the expense of commercial software, RCTV had to develop their own solution.

- ***The Solution***
  The company adopted the IBM Rational Software Development Platform, including IBM Rational Unified Process as a standard development methodology. IBM Business Partner ISCA provided training, consulting and mentoring services for the pilot project

- ***The Benefit***
  RCTV developed a software system that managed scheduling, eliminated annual license fees, reduced development time by 25%, and complied with strict, new government regulations in 15 days.

Founded in 1953, RCTV was the first commercial television station in the Venezuela. Today, RCTV delivers a variety of entertaining, educational and informative programs to millions of viewers.

In the past, RCTV relied on manual processes to manage the increasingly complex scheduling, programming and promotional needs of the station. Time-consuming and reliant on individual interpretations, these manual processes made it difficult to comply with government laws that regulate programming content, scheduling, and commercial breaks.

Although software for managing TV stations is available commercially, it is designed for companies much larger than RCTV. Odila Rubin de Ayala, vice president of information technology, for RCTV explains, “One of our main problems was the cost of software for the TV business. Most of it is designed for significantly larger TV networks, and it can cost from US$1.5 to $3 million. In addition, it would require many customizations because it is not something we could just put in place and start using. We would need to either adapt it to our processes, or adapt our processes to it.”

RCTV decided to develop its own solution in-house, but at the time lacked a structured method of gathering and tracking requirements throughout the project life cycle. Because the system was critical to its core business operations, the company needed to ensure that the development team was equipped to deliver a solution that fully met immediate business needs and could be easily updated to comply with evolving government regulations.

In addition, the quality and on-time delivery of the completed system were also critical to the success of the project. “When we decided to develop our own systems for the business, we had to ensure we had the correct procedures in place,” says Rubin. “We had to make sure the specifications were well-defined and that the programmers and everyone on the project had all the information and tools they needed to

deliver a correct implementation with all of the required features. We have to be certain that the systems that we develop are well-structured, well-documented, and work well."

New Approach, Consistent Methodology

To meet these challenges, RCTV adopted the IBM Rational® Software Development Platform, including the IBM Rational Unified Process®, or RUP®, methodology and IBM Rational tools for requirements management and visual modeling.

Applying RUP as a development methodology, RCTV addressed many of the most pressing needs of its development team. Rubin explains, "With RUP, our business users are involved in the development of the system from the very beginning and they are active throughout the process. That is critical to the success of our projects."

"In addition, RUP enables us to ensure that the system is correctly implemented and documented for everyone to see. The information—the diagrams, the vision document, the use cases, the entire specification—is there for anyone to use. Being able to provide that to everyone in the development group is very valuable to us and our technology organization," she adds.

Help Getting Started

RCTV engaged IBM Business Partner ISCA to provide training, consulting and mentoring services for RUP and IBM Rational tools. ISCA started with an extensive training session for the entire RCTV information technology group. ISCA consultants also helped with the initial installation and configuration of IBM Rational tools on the company's server—an IBM @server® xSeries 440.

"ISCA was a tremendous help in getting us started with the RUP methodology and with the tools. After the training, we began our first project, with ISCA mentoring our team. They reviewed documents we produced and performed quality assessments," says Rubin. "ISCA has definitely been a real advantage for us."

A Crucial First Project

As its first project using RUP and IBM Rational tools, RCTV selected Master Online, a system to automate and control the scheduling of all programs, promotions and commercials.

Television scheduling is a complex task requiring precise control. When a TV spot is not exactly the length it is supposed to be, the operator must adjust the schedule to avoid dead time on the air. Each day, the schedule must cover exactly 24 hours to the second. With its previous system, news events and other unexpected issues caused significant scheduling challenges for RCTV. Rubin recalls, "In the past, the process was very complicated because the software we were using produced data representing the events that were already being broadcast on air. This information was put on a disk. We would then translate the data to an Microsoft® Excel® spreadsheet by hand and calculate the various time differences."

In addition, RCTV was paying $24,000 per year to license the software for this system, which also required a specialized sub-network for security reasons. "Our solution was to develop Master Online which would allow authorized people to see the information they needed and automatically calculate all the times that were involved so that they could make the right decisions throughout each day."

Managing Requirements

Working closely with business users, the development team used IBM Rational RequisitePro® to define requirements for the Master Online system. Using Microsoft Word as their interface, the team documented requirements and defined use cases in text form, before registering them in the Rational RequisitePro database. The Word document

provided easy and intuitive access to the requirements for the entire team, and the database enabled the developers to prioritize, analyze, and track requirements throughout development. The use case diagrams helped everyone involved—including business users and developers—clearly understand exactly what the system needed to do, before it was designed and built.

Using IBM Rational Rose® XDE™ Modeler, system analysts then modeled the uses cases and linked them to the requirements documented in Rational RequisitePro. Elaborating on these models, the analysts developed the application architecture and built application diagrams of the system. The Unified Modeling Language (UML) diagrams clearly communicated the detailed system design to the development team, who coded the software in C# for the Microsoft .NET platform. "From a technology point-of-view, we were able to ensure that the programmers had all the information they needed to implement the functionality required by business needs," says Rubin.

Rapid Response to Changing Regulations

After the initial release of Master Online, the Venezuelan government passed new laws that strictly regulate the amount of time each day that television stations devoted to programming, promotions, commercials, and spots reserved for government use.

Rubin recalls, "As we were working on further development of the system, the government passed a very restrictive law. We had to very carefully control how much time we allocated each day to these various categories. There were already some government requirements in place, but now the penalties for not complying with these rules were so much more expensive, that they had to be seen in a different way from the past."

According to Rubin, complying with these new requirements was made much simpler because RCTV had developed their own software using proven best practices and effective tools. "We implemented all of the required changes very smoothly and very easily into the final product. The government allowed three months for compliance, but we completed the work in just 15 days. It would almost certainly have been very hard to make the same kind of changes with a commercial system. We were able to respond to the new needs of the business in a very short time."

Moving Forward with Testing and Defect-tracking

As the RCTV development team continues development on Master Online and other development initiatives, they are beginning to use more IBM Rational tools, supported again by training and mentoring from ISCA. The team is starting to use IBM Rational testing tools to automate testing activities, and IBM Rational ClearQuest® to track defects and changes. The group also uses IBM Tivoli Storage Manager® for backup and recovery management.

RCTV is currently moving towards service oriented applications. The Master Online system already accesses some systems as services, and there are plans in place to expand the use of service oriented architecture (SOA) in future projects. "SOA will provide advantages for RCTV by eliminating complex interfaces and facilitating data integration across all of our systems," says Rubin.

Faster Development, Improved Quality

Increased development speed, not only enabled RCTV to respond rapidly to changing regulations, it has shortened overall development time on projects. "Since we began using RUP and IBM Rational tools, we have reduced development time by at least 25 percent," Rubin reports.

At the same time, the RCTV information technology team has been able to improve the quality of the software it builds. She adds, "Everyone knows what the requirements are and everyone knows where to look when they need

something. As a result, the quality of our final products has improved significantly. Also, we can now easily shift maintenance to other programmers. We don't always have to depend on the people who originally developed the software to maintain it."

She concludes, "With RUP and the Rational tools, we continually and thoroughly evaluate our models before starting to write code. So when we are ready to code, we know that everything is going to be right. We have a good structure for software development in place now—a foundation for success."

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U.S.A

Produced in the United States of America
05-06

G210-2125-00