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Ford Motor Credit Company standardizes development methodology on IBM Rational Unified Process.

Overview

■ **The Challenge**

Ford Motor Credit Company IT wanted a consistent software development process. Each project team used its own methodology, making it difficult to share project deliverables, allocate staff, and communicate across geographically distributed teams. These processes offered little support for development and often resulted in late identification of project risks.

■ **The Solution**

The company adopted IBM Rational Unified Process and customized it. The IT department also established a coaching program to provide training and guidance to project teams.

■ **The Benefit**

Ford Motor Credit IT now identifies and addresses project risk much earlier in the development process. Development teams consistently deliver solutions on time, meeting or exceeding industry standards for quality.

Ford Motor Credit is one of the world's largest automotive finance companies and has supported the sale of Ford products since 1959. With operations in 36 countries, Ford Motor Credit manages approximately US$150 billion in receivables. Ford Motor Credit is an indirect, wholly-owned subsidiary of Ford Motor Company. It provides automotive financing for Ford, Lincoln, Mercury, Aston Martin, Jaguar, Land Rover, Mazda and Volvo dealers and customers. Ford Motor Credit has about 14,000 employees worldwide, including an IT staff of over 700 professionals that design, build, test and maintain the company's core software systems.

Recently, Ford Motor Credit standardized its IT software development initiatives on the IBM Rational Unified Process® (RUP®) methodology. Taking an approach similar to many other companies, Ford Motor Credit tailored RUP for its specific needs. After initially adopting the methodology for J2EE® development efforts, Ford Motor Credit IT has now successfully deployed its customized version of RUP, called Unified Solution Delivery Methodology (USDM), for its software projects.

Addressing a need

Ford Motor Credit's Frameworks and Architecture team created patterns and assisted software development teams with J2EE projects. Needing a methodology that would meet the projects' needs, they asked the company's methodologists to investigate options.

Other Ford Motor Credit IT development teams were using a variety of disparate development methodologies. Because each project team used their own set of templates, artifacts, and checklists, it was difficult to share project deliverables. When someone moved to a new team, they had to learn a new methodology.

Late identification of project risks was also an issue, particularly for project teams that were basing their methodology on a waterfall approach, in which each project phase is started and completed sequentially, before the next phase began.

Selecting IBM Rational

Once it became clear a new approach was needed, the Ford Motor Credit methodology team began evaluating possible solutions. The company had a solid project management process already in place, and the team looked for a development methodology that could be easily customized and integrated with its existing processes. The goal was to create a robust and pragmatic object-oriented development process tailored for Ford Motor Credit's needs.

In addition, a number of Ford Motor Credit's software developers were familiar with RUP, and there was a broad range of RUP resources available in the industry.

Coaching is key

The methodology team worked with project managers, service teams, and subject matter experts to customize RUP based on the specific needs of the Ford Motor Credit IT team. To facilitate the adoption of USDM, which is based on the iterative development approach of RUP, Ford Motor Credit instituted a comprehensive coaching program. Under this program, project teams received expert training, guidance and hands-on support from RUP coaches. The coaches helped the development teams get started using the new methodology as new projects were beginning.

With USDM, the methodology team wanted to ensure consistency across the organization by making certain all the teams applied the methodology the same way. They created a coaching model, in which coaches worked proactively, rather than reactively, with the teams. Coaches are involved with projects from the beginning, not just when they are having difficulties, and can provide instant feedback on the process. The coaches continue to show Ford Motor Credit teams how to execute the process, and if needed, they can even help with the actual work, such as creating Unified Modeling Language (UML) diagrams. After team members have been on one or two projects with USDM, they are able to help mentor their own projects with minimal coaching.

No more binders

In years past when Ford Motor Credit IT implemented a new process, binders describing the methodology would be provided to the teams, who would then be encouraged to apply the methodology in their projects. Today, the binders have been replaced by a comprehensive process Web site that is updated periodically as enhancements are added to the process. This not only saves costs, it also ensures that the teams get the updates they need quickly. All Ford Motor Credit teams have access to the Web site, which is an effective way of communicating the process and the information within it.

When Ford Motor Credit IT started to customize the RUP, it initially looked at the various templates it already had in use. It then decided for most cases to start with the RUP artifacts and customize as needed.

The USDM Web site contains a graphical guide that shows when a development project should engage the company's service teams. Ford Motor Credit IT has a number of independent infrastructure and service teams that support the work of project teams, including those that support data architecture, database administration, builds, and performance testing. The USDM process fully incorporates the use of the service teams into the RUP workflow, so that they can be leveraged at appropriate times throughout development.

Applying a standard methodology has enabled Ford Motor Credit IT teams to focus on what they do best. For example, because the Frameworks and Architecture team does not need to teach methodology to the application teams, they concentrate on their primary responsibility — helping application teams apply standard patterns.

Focusing on risk

One of Ford Motor Credit IT's first USDM projects was the development of a cash-handling system. After it was completed, the project lead spoke to the USDM user group. She told the audience about the challenges her team faced, and noted that the project involved a certain amount of risk. She explained that her team was successful because of the methodology, which addressed the project risks first. The old model did not address technical risk.

To ensure teams take steps to mitigate project risk on every project, Ford Motor Credit has created an artifact called the Risk-Use Case Mapping that is used to rank and prioritize the risks associated with each use case of the system. This document has been effective in helping teams identify risks and assessing their probability. By addressing risks early in the development life cycle, and prioritizing use cases based on return on investment, Ford Motor Credit's software development teams establish a stable architecture early in the project life cycle and deliver critical functionality first.

Supporting geographically-distributed development

Although most of the Ford Motor Credit IT team is located in Dearborn, Michigan, there are smaller development teams in Nashville, Tennessee, as well as in the Europe, Latin America, and the Asia-Pacific regions. In some cases, the business analysts for a particular project are located miles away from the development team that will implement the system.

Having a standard methodology in place is a significant benefit on such projects. Each team uses the same terminology and artifacts, simplifying communication and avoiding confusion.

Improved quality and increased customer satisfaction

RUP has enabled Ford Motor Credit IT development teams to continue delivering quality software that meets the needs of their business users. The business users are able to see progress and potential issues much earlier than they had in the past, and their feedback contributes to the success of the company's projects.

Ford Motor Credit IT has been able to consistently build on its success and meet new demands as they arise. Ford Motor Credit has a common methodology and a common terminology that enables teams to share artifacts. They are addressing risks up front and avoiding surprises at the end of projects with an iterative, incremental methodology. From a business perspective, the IT team is consistently delivering projects that satisfy business users and meet the company's high standards for quality.

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