Borland®
THE OPEN ALM COMPANY

Gigatronik GmbH

GIGATRONIK

FAST FACTS

Company
Gigatronik GmbH

A leading development services provider specializing in the automotive electronics sector.

Industry
Automotive

Geography
Europe

Challenges
- Eliminate manual processes in development
- Ensure software quality and reliability
- Support for CMMI process maturity

Solution
- Software Change & Configuration Management (SCM)
- Software Requirements Definition & Management

Product
Borland® StarTeam®, more recently adding Borland CaliberRM™ and Borland Together®

Results
- Increased customer loyalty and faster time-to-market
- Defect-free, higher quality software through automation
- Higher integration for efficiency and process maturity

THE COMPANY

When premium automotive manufacturers, such as Audi, BMW, Daimler and Porsche need automotive electronics and instrumentation for their latest model vehicles, they turn to Gigatronik. The company develops a variety of electronics and technology used in automobiles. Technologies include control device software, operating system configuration, information and analysis systems, PLM systems, testing systems and cross-departmental test stations, as well as on-board and off-board diagnostic software. Founded in 2001, the company has about 400 employees in Stuttgart, Cologne, Ingolstadt and Munich, Germany.

CHALLENGES

Gigatronik is a highly regarded development services provider specializing in automotive electronics, instrumentation and electrical-wiring and power systems. Since its systems are used to power and control automobiles, reliability and quality are paramount. The company employs Capability Maturity Model® Integration (CMMI®) to drive software quality, but needed to update its tools and processes for higher levels of process maturity and improved efficiency.

Eliminate manual processes in development

Automotive manufacturers are constantly pushing for the latest technology to differentiate and lead in their market segments. Because Gigatronik's products play a key role in their customers' market success, their product teams need to be efficient. The company's product teams needed to eliminate manual development processes in order to speed development.

"To ensure market success, it is extremely important that the development of software and IT solutions employed during the prototype phase are based on the latest technologies and keep pace with the development cycles of premium manufacturers," says Sven Sauerzapf, head of Diagnosis/Information & Testing Systems at Gigatronik GmbH.

Ensure software quality and reliability

The company's services include the development of components, functions and simulations; systems integration and networking; vehicle integration, and diagnostic, information and testing systems. Since software drives the functionality of these systems, comprehensive quality management and quality assurance measures must be employed in Gigatronik's software development. The development team wanted to capture required functionality and manage any changes so that they can catch and resolve quality issues in an efficient manner.

Support for CMMI process maturity

In order to ensure efficient software development processes and a uniformly high level of quality for each developed software solution, Gigatronik employs Capability Maturity Model Integration. Development teams use a systematically prepared collection of proven specialized practices and well defined requests that ensure quality software development. To reach an even higher level of maturity, support development coordination and improve performance, the company wanted their technology solutions to be integrated together.

SOLUTION

Gigatronik initially started using Borland StarTeam for the development of new software and new systems. It gives developers an open, flexible tool to record and update various development activities in the application lifecycle. StarTeam is a centralized platform for coordinating and communicating between development teams. Now, developers can view the current status of development at any time, from any location.

"Borland provides us with very effective support for a high maturity of development. We want to further optimize and fine-tune our CMMI-model-oriented development processes in order to achieve the next level of maturity. This means that we must carry out projects in accordance with an adaptable standard process and ensure that processes are continually improved."

– Sven Sauerzapf, head of Diagnosis/Information & Testing Systems at Gigatronik GmbH.

Based on the successful adoption of StarTeam, Gigatronik looked to Borland CaliberRM for software requirements management and architecture design. Borland CaliberRM is an enterprise software requirements management tool that ensures that applications meet customer needs. In addition, Borland Together 2008 was chosen to analyze, design, and implement flexible architectures that can be easily modified as requirements change.

Borland's Open ALM approach played a major role in Gigatronik's adoption of Borland products. Borland's Open ALM solutions break down silos and allow integration of multiple Borland technologies with other third-party products already in use within Gigatronik. Development teams are more efficient, products are more reliable, and the Borland solution supports the company's high maturity processes.

RESULTS

Increased customer loyalty and faster time-to-market

With Borland StarTeam, Gigatronik gains software development process efficiencies and more transparency for their customers. Previously, customers sent change requests via e-mail, creating a manual environment in which errors could occur. Today, customers insert change requests directly into the configuration and change management system. They can also check on the processing status of their changes at any time.

Borland CaliberRM also ensures that the software meets all requirements from Gigatronik's automobile customers. Borland's Open ALM solution supports new standardized electronic processes based on Requirement Interchange Format. Customers can exchange requirements definitions and documents starting from the initial phases of software development, without incurring losses.

"By bringing customers onboard with Borland's Open ALM approach, we improved collaboration and raised the level of customer loyalty," Sven Sauerzapf says. "Increased automation also helps speed the product's delivery."

Defect-free, higher quality software through automation

When development is completed, the finished applications are created automatically. All data for a software project are double checked, the code is compiled, and an executable install-shield program is created and linked to a setup file. This process is supported by a build server linked with StarTeam. It is now possible to easily process hundreds of thousands of files and large volumes of data.

"Electronic stabilization control systems must function perfectly, and diagnostic systems must not leave any open questions regarding the causes of a defect," says Sven Sauerzapf.

"Automated configuration and change management from Borland gives us an overview of all versions employed in the application lifecycle of a software solution," Sven Sauerzapf stresses. "This virtually eliminates, or reduces to a minimum, all potential sources of defects due to compatibility problems or outdated versions."

Higher integration for efficiency and process maturity

In addition to Borland StarTeam and CaliberRM integration with Gigatronik's other systems, the Borland Together visual modeling platform simplifies the development of new applications and the incorporation of design information. All tools work smoothly together, thanks to process-controlled integration that supports the company's high maturity processes. Requirements from CaliberRM are seamlessly linked with a UML diagram from Together and source code from StarTeam. This results in even more software development efficiencies for Gigatronik's software development teams.

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