Borland®

FAST FACTS

COMPANY
The Bundesagentur für Arbeit is the agency within the Ministry of Economics and Labor responsible for supporting Germany's unemployed.

INDUSTRY
Government

GEOGRAPHY
EMEA

CHALLENGES
- Reduce the processing time for unemployment claims
- Lessen the risk of calculation errors
- Ensure the quality, accuracy and performance of a large-scale mission-critical application

SOLUTION
- Borland® SilkTest®
- Borland® SilkPerformer®

RESULTS
- Distributed testing capability that supports 30,000 test cases run overnight
- Improved reuse of existing test scripts for immediate feedback every time a new build is tested
- Improved bottleneck detection and more effective tuning activities to ensure optimal performance

COMPANY

In Germany in 2004, about 10 percent of the workforce—or approximately 4,400,000 people—were unemployed. These people faced the personal issues that come with a disruption in employment, such as loss of self-esteem, the uncertainty of future employment and, most definitely, financial stress. It is with the last issue in particular that the German government is striving to help its unemployed citizens. The Bundesagentur für Arbeit is the agency within the Ministry of Economics and Labor responsible for supporting Germany's unemployed. In 2004, the Bundesagentur paid out approximately €29.1 billion in unemployment claims. The agency operates from 178 subagencies and 660 offices throughout Germany and employs about 90,000 people.

CHALLENGES

In 2003, the Bundesagentur für Arbeit began a mammoth multiyear, €10 million IT project to upgrade its business processes and the underlying software and supporting IT systems. The goals were to significantly reduce the processing time for unemployment claims, reduce the risk of calculation errors and create a central unemployment database. The Bundesagentur knew that a focus on quality and methodical software testing would be the only way to ensure the quality of a new application development project of this size, complexity and scope.

The project was code-named Colibri. An analytical model for the entire business process was developed; and from this model, software development specifications were created. The model was developed in Innovator, a strategic modeling tool provided by MID—a European IT tool specialist and service provider for industrial-scale business process and software engineering projects. And, in a nod to the importance of software quality, a team of 15 quality assurance personnel was put in place to work with the 17-person development team. A search was initiated; after evaluating five major vendors, the agency selected Borland to provide software quality solutions for functional and load testing.

SOLUTION

Today the Bundesagentur für Arbeit utilizes Borland® SilkTest® and Borland® SilkPerformer® to ensure software quality for the application that processes unemployment claims payments of more than €29 billion annually. The Bundesagentur für Arbeit uses 50 licenses of Borland SilkTest for functional and regression testing, and a 40,000 Virtual User (VU) license of Borland SilkPerformer for load testing.

Borland solutions were selected for their market-leading functionality and their ability to support software quality processes across the entire software application lifecycle. Within the functional testing group, Bundesagentur für Arbeit personnel liked the fact that Borland SilkTest was built on an object-oriented architecture. This meant that test scripts developed would be easy to maintain—ensuring the reusability of test assets and eliminating the need to re-create test scripts every time something in the application changes.

"Going forward, Borland will be the standard for software testing within the Bundesagentur für Arbeit. With Borland and the quality processes we have put in place, the Bundesagentur is truly able to optimize the quality of its customer-facing and business IT systems." — Jens Schiller, project manager, Bundesagentur für Arbeit

To fully leverage regression testing, the Bundesagentur für Arbeit also wanted to be able to run tests completely unattended, without any manual intervention. The powerful scripting language of Borland SilkTest and its ability to customize an automatic recovery system completely supported unattended testing, freeing up test personnel to work on other quality-related issues while Borland SilkTest automatically ran regression tests. Tests could now be distributed to 10 client computers, allowing 30,000 test cases to run overnight—after every new build—completely unattended.

The thoroughness and frequency of regression testing allow the Bundesagentur für Arbeit to ensure that quality levels remain high. "Over the three years this project has been going on, we have received new builds from development on an ongoing basis," explained Dr. Christian Brandes, senior consultant, MID. "With the object-oriented technology of Borland SilkTest, we are able to easily maintain our existing regression tests. This is important because we can run regression tests upon receipt of a new build and provide input to development almost immediately as to quality and status of the new build. To be able to give that kind of instantaneous feedback to the project team is critical."

Additionally, the Bundesagentur für Arbeit utilizes several levels of testers, including the highly technical who are responsible for building and running regression tests, as well as business analysts who are responsible for creating test cases and analyzing the results. So that all testers can utilize Borland SilkTest to its fullest, the QA team created a GUI-based, keyword-driven framework for building test cases, which is directly attached to the analytical software model held in Innovator. Using this framework, the business analysts can quickly build tests without having any knowledge of the underlying scripting language.

RESULTS

In the load and performance testing area, Borland SilkPerformer provided ease of use, scalability and the ability to accurately model the anticipated user workloads and volumes that Colibri must support. Once fully deployed, the application will be accessed by up to 40,000 to 50,000 simultaneous online users throughout Germany, processing a variety of compute-intensive transactions.

Because of the strong functionality offered within Borland solutions, the QA team has been able to continually expand and deepen test coverage of Colibri. This, in turn, has driven even higher levels of software quality, all proven in the field. "Colibri went into pilot production last summer. User acceptance has been extremely high; processes that used to take days are now completed in minutes and, most important, calculation accuracy has been spot-on," explained Norbert Gundel, manager of quality assurance at the Bundesagentur, who co-managed the quality aspects of the Colibri project with Dr. Brandes.

Added Dr. Brandes, "Understandably, calculation accuracy is critical. With 4 million unemployed citizens, an error of even one euro in our calculation algorithm would result in erroneous additional payments of €4 million per month. With that type of financial exposure, ensuring quality within Colibri was a crucial success factor."

"Going forward, Borland will be the standard for software testing within the Bundesagentur für Arbeit," said Jens Schiller, Bundesagentur project manager responsible for the entire Colibri development project. "With Borland and the quality processes we have put in place, the Bundesagentur is truly able to optimize the quality of its customer-facing and business process IT systems."

ABOUT BORLAND

Borland Software Corporation is the global leader in platform independent solutions for Software Delivery Optimization. The company provides the software and services that align the people, process, and technology required to maximize the business value of software.