

TOTALVIEW® Case Study

Improving Bizerba's Software Development Time and Product Reliability

End-User

Bizerba is a worldwide leader of manufacturing retail scales, slicers, weigh price labeling equipment as well as checkweighers, industrial scales and software. The company sells hardware and software products, high-performance, network-capable management systems, and a wide range of labels, consumables and business services. With 2,807 employees in 21 countries worldwide, Bizerba is headquartered in Balingen, Germany, with additional production sites in Meßkirch and Bochum (Germany) and Shanghai, China.

The Challenge

Bizerba is poised to become the leading worldwide supplier of IT-supported system solutions for the retail industry. To achieve this goal, Bizerba must expand its offerings beyond the company's current industrial solutions to include applications for logistics processes and other applications for the Smart Labels market segments (Time Temperature Indicators and Radio Frequency Identification). These software applications must be robust enough to work on a variety of platforms and operating systems, and "clean" enough so that end-user customers do not have to worry about software problems. Bizerba sought a debugging solution that would help its developers meet these requirements.

The Solution

Bizerba developers chose TotalView Technologies' TotalView® debugger to help develop their applications. TotalView is the most advanced multi-core debugger for Linux, UNIX, and Mac OS X and is the market leader in C/C++, FORTRAN, UPC, MPI/Open MP and parallel programming debugging. The TotalView debugger was designed from the ground up to handle demanding multi-processing applications that scale to thousands of processes and threads by offering many advanced features, including multi-language support and built-in source code and memory debugging capabilities, which streamline and simplify the development process. TotalView has made it possible for Bizerba developers to significantly speed their development times, as well as improve the quality of their software products.

Background

As a leader in weighing and other retail technology, Bizerba offers software solutions for various platforms and operating systems. For Bizerba, it is important that its solutions enable customers to concentrate on their businesses, rather than having to spend time dealing with software-related problems. The company knew it had to invest in a debugging solution that would allow its programmers, who work on the Linux platform, to easily find bugs and to solve problems during software development.

When the Bizerba developers first switched from developing applications in a Windows environment to the Linux platform, they chose a freeware debugging solution, the GNU Project debugger GDB, along with some front ends to it.

However, the GDB debugger presented several disadvantages in terms of instability and usability.

Because of this, application development became a very slow, painstaking process. As a result, the project team's motivation and morale was going from bad to worse.

With a project milestone looming, Bizerba knew it had to find a more suitable debugger that would improve the efficiency of the development cycle. They chose TotalView Technologies' TotalView debugger because of its well-known reputation and widespread use. According to A. Reinhold Wangler, team manager of retail scale software at Bizerba, "TotalView seemed to be one of the most used and well known debuggers for multi-threaded applications. We also appreciated the easy installation procedure and the intuitive user interface."

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How the TotalView Debugger Helps

Bizerba uses the TotalView debugger for basic software development in C/C++ as well as for other multi-threaded application software development projects. According to Wangler, a big advantage for Bizerba is the memory debugging feature of TotalView, which makes it easy for developers to find leaks, track heap allocations and de-allocations, and get usage information anytime. Because it is less intrusive than other memory analysis tools, and doesn't require users to re-compile their programs, TotalView not only simplifies the debugging process for Bizerba developers, but it also improves software reliability for its customers.

"With TotalView's built-in memory debugging capabilities, our developers are now able to discover memory leaks, which in turn prevent the software from running out of memory. This also improves product quality and therefore is an important benefit of TotalView," said Wangler.

Other benefits of the TotalView debugger include:

- Intuitive user interface and easy-to-learn features enable developers of all levels to analyze and debug complex multi-process and multi-threaded applications.
- Multi-platform compatibility reduces debugging learning curve and allows organizations to quickly increase the efficiency of new developers.
- Unique time-saving features enhance developer productivity and shorten the application development cycle by simplifying the process of debugging complex applications.
- Scalable, robust solution ensures consistently accurate and reliable results when debugging challenging applications that require massive amounts of data, millions of lines of code, and extensive parallelism.
- Non-intrusive debugging solution minimally impacts application performance.

"Our developers used to spend much of their time on debugger issues, not on solving software problems," said Wangler. "Compared to the GDB debugger, we have doubled our speed for debugging software problems by using TotalView."

Since it began using the TotalView debugger, Bizerba has realized several important productivity and quality advantages that have had a positive impact on its business.

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He continued, "With shorter development times, more stable code and last but not least the growing motivation of the developers themselves, TotalView has helped to improve our product quality immensely."

About TotalView Technologies

TotalView Technologies is the world's leading provider of scalable debugging and analysis software solutions for the multi-core era. TotalView Technologies products enable software developers to quickly, easily and effectively debug UNIX, Linux, and Mac OS X applications running on development machines with single, dual-core, multi-core, or multiple processors.

For more than 20 years, TotalView Technologies products have been at work in research institutions, government laboratories, and technical computing centers, as well as commercial enterprises in the financial services, telecommunications, biotech, aerospace, weather prediction, film special effects and animation, oil and gas exploration, and computer-aided engineering markets. Recognized worldwide as the gold standard for debugging in high-performance, distributed or cluster computing environments, TotalView Technologies' award-winning technology is used to solve the world's toughest computing problems on many of the world's largest supercomputers. For more information, visit www.totalviewtech.com.

TotalView Technologies

24 Prime Park Way
Natick, MA 01760
P.508.652.7700
F.508.652.7701