



Compuware DevPartner™

Accelerated Software Development



Deliver reliable applications faster

In today's shortened application development cycles, you face three critical challenges: reducing time-to-market, ensuring reliability and delivering optimal performance. The best way to improve productivity while increasing performance and quality is automation.

With the increasing complexity and size of applications, and the higher risks associated with customer-facing applications, poor application quality and performance can spell business disaster.

Tools for productivity and reliability

How well your development team works together can make the difference between success and failure for your business. Make sure you work with tools that automate development and testing processes. Compuware products provide a comprehensive development, debugging and tuning solution to the challenges of application development, from concept to coding to completion.

Compuware tools cover Microsoft, Java™, 64-bit and driver development, helping you improve productivity and increase software reliability for systems ranging from simple two-tier applications to complex distributed and web-based systems. When your project requires added expertise, Compuware professional services can help at any point. Our service professionals bring real-world perspective and years of experience to help you deliver integrated, reliable applications with real return on investment.

Build Microsoft applications to last

DevPartner Studio Professional Edition helps maximize developer productivity while improving quality, whether your team is working in Visual Studio .NET, Visual Studio 6 or a combination of the two. You can build reliable code quickly, from simple applications and components to web services and complex, multi-tiered distributed systems.

DevPartner Studio pinpoints coding errors, analyzes memory usage, measures runtime performance and provides complete test coverage. Its features are tightly integrated with the Visual Studio .NET and Visual Studio 6 IDEs, making it fast and easy to build reliable, high-performing code consistently across distributed environments.

Reviewing source code

The earlier errors are corrected in development, the lower the cost of fixing them. DevPartner Studio code review goes to work long before applications are ready for runtime analysis and testing. This feature:

- reviews Visual Basic, Visual Basic .NET, C# and ASP .NET source code for hundreds of potential problems, based on industry-standard best practices
- provides recommendations on migrating Visual Basic source code to .NET
- provides details about the causes of errors and slow code and suggests solutions
- can be tailored to specify the coding standards of your organization, keeping development consistent at every stage.

Analyzing memory

DevPartner Studio memory analysis improves runtime performance and resource utilization for .NET applications by providing an accurate profile of memory usage. Memory analysis saves valuable development time by helping you to quickly identify inefficient code that consumes or wastes memory. DevPartner Studio:

- identifies how .NET code utilizes memory resources
- determines impact of .NET program's memory use on application performance and reliability
- locates .NET program leaking objects
- monitors memory usage for applications made up of a variety of components written in different .NET programming languages.

Automating error detection

DevPartner Studio includes automated error detection using BoundsChecker technology and debugging tools for Visual Studio .NET and Visual Studio 6. You spend more time developing, and less time problem solving, as DevPartner Studio:

- detects C++ memory and other resource leaks at runtime, as well as pointer and Windows API errors
- verifies that ActiveX controls and Visual Basic functions are used correctly
- detects thread deadlock and other synchronization issues
- monitors the boundary between managed and unmanaged code to catch exceptions and identify performance issues in calling native code components
- identifies errors in COM components and provides COM use count analysis.

Analyzing code performance

Tuning an application improves runtime performance and usability. DevPartner Studio provides easy-to-use performance analysis to:

- sample and view performance data across multiple processes running on your machine
- collect information at the line of code or function level
- display managed and unmanaged code in the same analysis session
- interactively compare performance runs to determine the effect of code changes.
- quickly pinpoint slow code and performance bottlenecks.

Locating untested code

Measuring the risks associated with application quality requires you to know what code was exercised and what still needs testing. DevPartner Studio coverage analysis lets you:

- identify what code was—and was not—executed during testing, at the line of code or method level
- combine results of incremental tests to track overall project coverage
- measure and track the stability of code as it undergoes changes
- incorporate code coverage throughout the application life cycle as part of a total quality management solution.

Quality Java development made easy

Analyzing distributed applications

DevPartner Studio distributed analysis captures runtime data for application components running on a single machine, without adding an instrumentation or recompilation step. You can locate errors and performance issues quickly, while tracing the series of transactions between components.

Using the optional DevPartner Studio Server license, you can collect memory, performance, coverage and distributed application execution data from components running on remote systems. Now you can extend the power of DevPartner Studio beyond the execution of a single machine, to execution across all of your remote machines.

Debugging at the system level

Finding coding errors at the start of development assures development projects will stay on track. Available as an add-on option, SoftICE fits in perfectly with the debugging functions of your current IDE and DevPartner Studio Professional Edition, helping you debug applications more thoroughly in a minimal amount of time. Extending the debugging capabilities of traditional Windows SDK/DDK tools, SoftICE:

- debugs Windows PC programs—from boot drivers to applications—at the source level
- finds problem code no matter where it shows up—including remote machines
- captures debugging information, even after a system crash occurs.

Whether your Java applications run on a single machine or across multiple computers, DevPartner Java™ Edition arms project teams with the capabilities to handle the runtime performance, memory and threading issues typical of the multi-tiered architecture of Java development.

Without requiring extensive training, the DevPartner Java™ Edition browser-based user interface gets cross-functional teams working with detailed analysis and profiling techniques to fix underlying issues fast. Project teams can work together at any development stage using their standard browsers, without installing software or licenses locally, reworking their code or changing their standard practices. The result is more reliable Java code delivered on schedule.

The DevPartner Java™ Edition web browser interface also can be customized easily to suit the individual needs of each user. Regardless of skill level or problem-solving approaches, users can build code the way they always have—with their own successful development techniques.

Bringing distributed components into full view

Today's debugging tools often limit project teams to analyzing application tiers or machines one at a time. You save time analyzing and debugging distributed components with DevPartner Java™ Edition as you:

- look at multiple application tiers or remote machines from the same workstation using a browser
- gather runtime data from remote client and server systems
- analyze data from Java servlets, applets, JavaBeans, Enterprise JavaBeans and Java Server Pages in a single view.

64-BIT

Stepping up quality 64-bit development, DevPartner64 includes two of the industry's best-known debugging tools re-engineered specifically for Intel's new architecture: Visual SoftICE and BoundsChecker64. DevPartner64 makes building 64-bit applications, drivers and components easy with:

- debugging at both the application and kernel level
- automated memory and leak detection
- active API validation
- remote debugging
- allocated memory analysis.

Analyzing memory consumption—live

Finding which object consumes excessive memory in multi-tiered environments can take hours, or even days, by hand. Why risk jeopardizing Java performance? DevPartner Java™ Edition memory analysis examines how an application consumes memory as it executes, so you:

- check analysis detail and summaries from each tier all at once
- save time identifying the total memory consumed, objects consuming excessive memory and the number of instances
- view applications at any level of detail, even down to the individual line of source code
- detect elusive memory-related problems as soon as they happen.

Profiling Java performance, from top to bottom

Every minute spent getting to the source of bottlenecks in multi-tiered environments decreases end-user satisfaction. DevPartner Java™ Edition performance analysis guides you quickly through the n-tier environment to spot performance bottlenecks before end users do:

- see multiple views of performance data simultaneously from one location
- scan the entire application, from Java-interpreted code to underlying system code
- navigate easily through applications, source files, libraries, methods and individual lines of code for comprehensive timing, statistics and data, without altering the Java runtime
- collect data at the module and line level of code.

Locating thread-related problems at runtime

Identifying thread-related problems in distributed environments is a painstaking process. With DevPartner Java™ Edition multi-thread analysis, you:

- find and fix problems in multi-threaded Java applications and components early in development or testing
- analyze for potential threading concerns to reveal where deadlocks or potential deadlocks exist
- gain a more powerful and informative tool for finding thread-related problems than through runtime detection alone.

“Compuware DevPartner Java™ Edition saved our development team valuable development time in profiling and performance tuning our web application, which is critical with the short development cycle of many web applications these days. Even with our non-standard development environment, DevPartner Java™ Edition was easy to set up. It has a crisp, clean UI and its distributed front-end enables us to monitor and analyze our tests in real time right from our desktop, making testing and debugging quick and easy.”

Daniel Einspanjer, Software Engineer, ChoiceStream

To learn more about DevPartner products, visit us at:
www.compuware.com/devpartner

Checking code coverage

True code stability requires testing code with every change. The trick is to know which code to test. Eliminate the guesswork and save time in testing using DevPartner Java™ Edition coverage analysis. DevPartner Java™ Edition automatically gathers coverage statistics and data during development and unit testing, so you:

- focus testing efforts only on new or changed code
- locate unexecuted code in Java components as an application runs
- collect coverage data for applications, components, classes, methods and individual lines of code, all at once.

Take control of development from start to finish

DevPartner Studio Enterprise Edition combines the powerful error detection, memory, performance, coverage and distributed analysis capabilities of DevPartner Studio Professional Edition with requirements management, project tracking, defect and task management, and workflow automation. You gain more control over software projects while increasing productivity, code quality and support for team workflow and communication.

Managing requirements

Compuware Reconcile captures, edits and traces changes to requirements as they evolve throughout development and testing. It tracks each requirement's text and its corresponding attributes such as priority and estimated cost, and manages interrelationships between requirements. Reconcile integrates with the Compuware workflow management tool, TrackRecord, to automatically handle the communication and workflow of project assignments and to-do lists.

Reconcile also correlates the results of tests with business requirements. You understand which business requirements have tests associated with them and which of those were executed successfully.

Managing workflow

Compuware TrackRecord captures diverse details of a development project and shares data among developers, testers and project managers. DevPartner Studio Professional Edition automatically captures and submits defect information for subsequent tracking through the resolution and test phases. A common information repository provides information and reports on assignment lists, defect details and status.

Web-based communication keeps everyone informed. The milestone status report creates a comprehensive one-page overview of project status to outline what is required to meet a defined milestone.

Automating device driver development

DriverStudio helps speed testing and improve reliability during Windows device driver development. Its system-wide visibility lets you find and fix problems from your desktop, in the testing lab or after deployment. DriverStudio integrates with Visual Studio .NET integrated development environment and Visual Studio 6 through its DriverWorkbench technology environment. DriverStudio offers:

- innovative wizards that lead users through device driver development
- a single-machine debugger for kernel-mode programming
- a multi-window, configurable GUI for system-wide debugging
- automatic monitoring and recording of driver operation and calls to the operating system kernel
- a crash file analyzer to determine causes of system crashes
- instrumentation for remote debugging
- performance analysis to identify and fix bottlenecks
- code coverage analysis to locate untested code.

To learn more about DriverStudio products, visit us at:
www.compuware.com/driverstudio

Compuware products and professional services—delivering quality applications

Compuware is a leading global provider of software products and professional services which IT organizations use to develop, integrate, test and manage the performance of the applications that drive their businesses. Our software products help optimize every step in the application life cycle—from defining requirements to supporting production service levels—for web, distributed and mainframe platforms. Our services professionals work at customer sites around the world, sharing their real-world perspective and experience to deliver an integrated, reliable solution.

Please contact us to learn more about how our comprehensive products and services can help your organization improve productivity, create higher quality applications and ensure performance in production.

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