Rational. software

# IBM® Rational® Test RealTime

## Highlights

- ***Automates component testing and runtime analysis for host and target from a single testing environment***
- ***Automates creation and deployment of component test harnesses, test stubs, and test drivers***
- ***Profiles memory and performance, analyzes code coverage, and visually illustrates runtime tracing***
- ***Host-based tests easily adapted to different targets without re-writing test procedures***
- ***Test and analyze directly on the target. Supports all common platforms—from an 8-bit microchip to a 64-bit RTOS***
- ***Provides detailed code coverage information required for safety- and mission-critical certification***

IBM Rational Test RealTime is a cross-platform solution for component testing and runtime analysis. Test RealTime was designed specifically for those who write code for embedded, real-time, and other types of commercial software products. Test RealTime allows you to be more proactive in your debugging, enabling you to fix your code before it breaks.

### Test, analyze and resolve during development

The best time to find and fix bugs is during development. This is why Rational Test RealTime is focused on developer testing—the kind only you as the author of the code can perform effectively. You need to easily test the components you write and to analyze the reliability and performance of your applications as they run on your host development system.

Test RealTime automates the creation and deployment of component test harnesses, test stubs, and test drivers. With a single click from your development environment, you can also profile memory and performance, analyze code coverage, and visualize runtime tracing. Fully detailed test and runtime analysis reports are hyperlinked to the relevant source code.

Only IBM Rational combines component testing and runtime analysis into a single, integrated developer-centric testing solution.

### Test and debug both host and target

Host-based testing is important for embedded systems development since your target hardware is often not available in a timely manner. But developers cannot measure the quality of their work until they see it execute in the target environment. The situation grows even more complex when you have multiple types of targets that have to be tested.

Rational Test RealTime allows you to test and debug both host and target and to coordinate the two in a meaningful way. When your hardware is not available, you can simulate on the host and test for generic bugs. When the target is there, you can

execute the same tests directly on the operational platform. Test RealTime's versatile Target Deployment Technology allows you to easily adapt your test procedures to any target and build environment without having to rewrite your tests.

Only Rational lets you test and debug on the host and across multiple targets using the same test and analysis procedures.

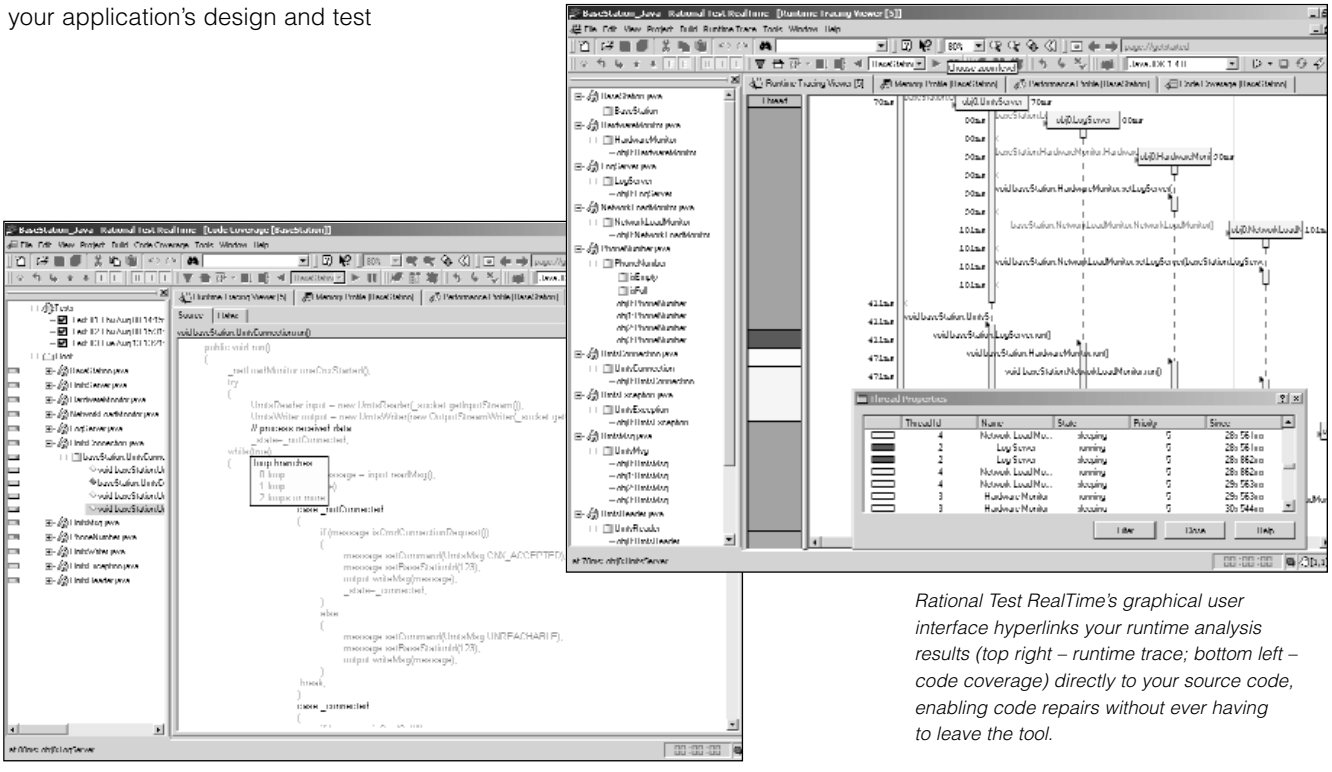
**Harness the power of model-driven testing**

The Unified Modeling Language (UML) can be used to visually lay out your application's design and test scenarios. IBM Rational Rose® RealTime automates modeling with the UML and provides robust code generation to support Model-Driven Development (MDD) paradigms.

Rational Test RealTime extends MDD to include developer testing activities. Rational provides a Test RealTime plug-in for Rose RealTime that allows developers to invoke runtime analysis features on code generated from Rose RealTime. You can also visualize test case coverage via color-coded state-machines in Rose RealTime.

Only Rational integrates the UML across both design and developer testing activities, providing the industry's broadest support for model-driven development.

For more information, please go to http://www.rational.com/products/testrt to learn more, view online demonstrations, and download/order an Embedded Developers Solution CD that includes an evaluation version of Test RealTime.



*Rational Test RealTime's graphical user interface hyperlinks your runtime analysis results (top right – runtime trace; bottom left – code coverage) directly to your source code, enabling code repairs without ever having to leave the tool.*

## Rational's solution for component testing and runtime analysis consists of the following products:

| | |
|---|---|
| **For Microsoft Windows:**<br>IBM Rational Purify for Windows | **For Sun Solaris and HP-UX:**<br>Rational PurifyPlus for UNIX |
| **For Red Hat and SuSe Linux:**<br>IBM Rational PurifyPlus for Linux | **For SGI IRIX:**<br>Rational Purify for UNIX |
| **For embedded systems and cross-platform devlopment:**<br>Rational PurifyPlus RealTime<br>Rational Test RealTime | **For IBM AIX:**<br>Rational PurifyPlus RealTime<br>Rational Test RealTime |

## Product Feature Matrix

| | PurifyPlus for Windows | PurifyPlus for Unix | PurifyPlus for Linux | PurifyPlus RealTime | Test RealTime |
|---|---|---|---|---|---|
| **Memory corruption detection** | C/C++ | C/C++ | C/C++ | N/A | N/A |
| **Memory leak detection** | Java, C/C++, .NET | Java, C/C++ | Java, C/C++ | Java, C/C++ | Java, C/C++ |
| **Performace profiling** | Java, C/C++ .NET, VB6 | Java, C/C++ | Java, C/C++ | Java, C/C++ | Java, C/C++ |
| **Runtime tracing** | N/A | N/A | Java, C/C++ | Java, C/C++ | Java, C/C++ |
| **Thread profiling*** ** | Java, .NET VB6 | N/A | Java, C/C++ | Java, C/C++ | Java, C/C++ |
| **Code coverage analysis** | Java, C/C++ .NET, VB6 | Java, C/C++ | Java, C/C++ | Java, C/C++, Ada | Java, C/C++, Ada |
| **Component testing** | N/A | N/A | N/A | N/A | Java, C/C++, Ada |
| **System testing** | N/A | N/A | N/A | N/A | C |

* *PurifyPlus for UNIX, Quantify for UNIX, and PureCoverage for UNIX support Java on Sun Solaris only*

** *PurifyPlus for Linux detects a subset of memory corruption errors detected by Purify for Windows, Purify for UNIX, PurifyPlus for Windows and PurifyPlus for UNIX*

*** *The entire PurifyPlus Family of products supports multithreaded applications. Thread profiling functionality refers to the ability to visualize running threads.*

## SPECIFICATIONS

### System Requirements

- *Minimum: 64 MB RAM,*
- *100 MB Hard Disk Space*

### Supported Platforms

- *Windows NT 4.0 SP 6a*
- *Windows 2000 Professional*
- *Windows XP Professional*
- *Solaris 2.6, 7, 8, 9*
- *HP-UX 10.2, 11.XX*
- *AIX 4.3 and 5L (v5.1/v5.2)*
- *Red Hat Linux 7.0, 7.2, 7.3, 8.0*
- *SuSe Linux 7.2, 7.3, 8.1*

### Programming Languages

- *C*
- *C++*
- *Ada*
- *Java (J2ME/J2SE)*

### Cross-Development Environments Used by Our Customers

- *Green Hills*
- *HP*
- *Microsoft*
- *OSE*
- *Rational Apex*
- *Red Hat*
- *Sun*
- *TI*
- *Wind River*

**Visit our web site for more information about supported environments.**



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