

SPOTLIGHT on Eclipse 2007

*Leading Tools
And Solutions
For Eclipse*

A SUPPLEMENT TO
SD Times SOFTWARE DEVELOPMENT
The Industry Newspaper for Software Development Managers
MARCH 1, 2007

PLATINUM SPONSOR



GOLD SPONSORS



SILVER SPONSORS





Sybase® WorkSpace: Learn to love SQL development!

As IT departments react to faster deadlines and greater demands, it's more important than ever that your database and applications run flawlessly. Sybase WorkSpace is just the tool you need to make sure all your code is doing its job, so your job is more relaxing. This integrated environment simplifies and unifies the complete development life cycle for database applications, starting with data modeling, through development, debugging and deployment.

WorkSpace is a development environment for Sybase data management and movement platforms combining industry-leading data modeling with visual SQL building, query analysis and sophisticated editing and debugging. With WorkSpace, you can:

- Visually create and edit tables, stored procedures and events
- Visually debug stored procedures and triggers
- Automatically detect and create required temp tables
- Navigate and manipulate database objects in the enterprise
- Export and import database objects and services to database servers

Visit: www.sybase.com/workspace to download an evaluation copy and discover just how much better life can be with great code!

BUILT ON
eclipse™

SYBASE®

Getting Down to the Business Of Writing Software

Why do IT professionals, such as software developers, use Eclipse? There are many reasons. Some use it because it's free, plain and simple. Some use it because it has a huge ecosystem of open source plug-ins. Others value Eclipse's ease of use.

At the end of the day, however, the biggest benefit is that the Eclipse platform helps organizations and individuals write better software. If it didn't do its job, its price, its open source community and its emerging third-party market wouldn't matter in the slightest.

In November 2006, BZ Research—like SDTimes, part of BZ Media—conducted its third annual Eclipse Adoption Study. The results showed that 65 percent of Eclipse users like it because it's a low-cost platform, and 62 percent because it's open source. Sixty percent use Eclipse because there's a wide range of plug-ins available, 48 percent because it's extensible, and 40 percent because it's easy to use.

One respondent wrote, "Eclipse is an awesome platform... it's portable, customizable and truly a staple in my day-to-day existence as a technology professional." Another told us, "Eclipse is one of the best IDEs I have ever used. The ease of plug-in installation and development is pretty awesome. I am hoping all my development can be on Eclipse eventually." A third commented, "Eclipse IDE and related tools are just great and really productive. We build even custom tools within Eclipse that our developers and our customers are using to work with our application."

Not bad, not bad at all. Because, at the end of the day, a tool has to help you do a job better. Eclipse, as well as its many projects, is a tools platform. And it helps IT professionals get the job done.

This special supplement to SDTimes was created to highlight leading members of the Eclipse community. The companies spotlighted here offer a wide range of solutions that will help you do what you do best: write and test software. We hope you enjoy reading about them and how they advance the art of software development.

On a separate note: Be sure to attend this year's two more important Eclipse events: EclipseCon, Mar. 5–8 in Santa Clara, Calif., and EclipseWorld, Nov. 6–8 in Reston, Va. I'll be at both conferences, and look forward to meeting you there! •



Alan Zeichick: editorial director of SD Times

4 Eclipse: Fueling Open Source And
Commercial Software Innovation
IBM – Platinum Sponsor

9 Software FX Brings
Data to Life With Chart FX
Components – Silver Sponsor

13 Actuate Extends Eclipse BIRT
Functionality Into the Enterprise
Data Reporting Tools – Silver Sponsor

15 MontaVista Accelerates
Time-To-Market For Linux-based Devices
Embedded Development Tools – Gold Sponsor

17 LynuxWorks Lights Up
Embedded Linux Using Eclipse
Embedded Development Tools – Silver Sponsor

18 Genuitec Takes Eclipse
Beyond the Ordinary
Development Environments – Bronze Sponsor

19 Sparx Systems Puts
The Spark in UML
Modeling Solutions – Bronze Sponsor

SPOTLIGHT ON
Leading Tools
And Solutions
For Eclipse
Eclipse 2007

A SUPPLEMENT TO SD TIMES MARCH 1, 2007
Copyright © 2007 BZ Media LLC, All Rights Reserved
SUBSCRIBE TODAY! www.sdtimes.com

Editorial Director
Alan Zeichick
alan@bzmedia.com

Managing Editor
Patricia Sarica
psarica@bzmedia.com

Art Director
Erin Broadhurst

Copy Editor
Laurie O'Connell

Lead Writer
George Walsh
gwalsh@bzmedia.com

**Customer Service/
SD Times Subscriptions**
+1-847-763-9692
sdtimes@halldata.com

Article Reprints
Lisa Abelson
+1-516-379-7097
labelson@bzmedia.com

BZ Media

BZ Media LLC
7 High Street, Suite 407
Huntington, NY 11743
+1-631-421-4158 • fax +1-631-421-4130
www.bzmedia.com • info@bzmedia.com

President
Ted Bahr

Executive Vice President
Alan Zeichick

Open source innovation

White paper

January 2007

Rational software



Eclipse: fueling open source and commercial software innovation.

Contents

- 2 *Introduction*
- 2 *Leveraging open source*
- 2 *But is it really open?*
- 3 *Results to date*
- 3 *IBM and Eclipse*
- 4 *A look into the future*

Introduction

In the mid-1990s, we saw two worlds: one centered around tools that enabled Microsoft® to focus on run-time execution support and another centered around the Java™ platform, which focused on a more open, industry approach. IBM's goal at the time was to bring developers closer to the more open, Java technology-based middleware. We envisioned a world in which a customer's development environment comprised a heterogeneous combination of tools stemming from IBM, the customer's own custom tools and third-party tools—all built against a common platform, thus comprising a software tools ecosystem. By November 1998, IBM began creating that development tools platform, which eventually became known as Eclipse. This article takes a broad look at the Eclipse initiative's past and present, and provides a glimpse into its potential future.

Leveraging open source

After several years of development, we considered opening up this technology. While the Java technology-based middleware software business was growing, it was not advancing as rapidly as we would have liked. We knew we needed business associates to fulfill the vision, but found it hard to convince them to invest in our (as-yet-unproven) platform. In November 2001, IBM made available its Eclipse platform under an open source license. IBM, along with eight other organizations, established the Eclipse consortium and Eclipse.org to provide an open operating model in order to increase exposure and accelerate platform adoption. Initial members included IBM Rational® software group, TogetherSoft, WebGain and Borland. Most Eclipse members and committers came from a short list of commercial vendors; IBM was the largest contributor of content, financial and staff resources.

But is it really open?

The first major Eclipse releases were well received and strongly adopted by developers. But industry analysts told us that the marketplace perceived the Eclipse effort as being controlled by IBM. This perception left major vendors reluctant to make a strategic commitment to the Eclipse platform. So we began



working with other companies to create and define the governance for the Eclipse Foundation, a not-for-profit organization with its own independently paid professional staff, supported by dues from member companies. We announced the new foundation just in time for EclipseCon 2004.

Results to date

The move has been a success. The new and independent Eclipse Foundation shipped Eclipse 3.0, and it was a hit. Recently, Eclipse 3.2 was released to resounding reviews. We've seen dramatic growth in membership at a number of levels and a deeper commitment by independent tools vendors and most platform vendors. The Eclipse Foundation and its members continue to foster new project development, including the emergence of several powerful Eclipse projects, such as Rich Client Platform, Web Tools Platform, Data Tools Platform and Business Intelligence Reporting Tool.

There are now 17 strategic developer member companies, each of which commits at least eight full-time developers and up to US\$250,000 annually to the Eclipse Foundation. The foundation also has four strategic consumers that make a similar economic commitment. There are 107 companies serving as add-in providers, and another 17 associate member companies. You'll also find hundreds of commercial plug-ins and products for Eclipse, which is now a leading tools platform.

IBM and Eclipse

IBM is more committed to Eclipse now than ever. We contribute more developers to Eclipse projects than a year ago, and significantly more than any other vendor. We deliver Eclipse platform-based products from every IBM Software Group brand – Rational, Lotus®, WebSphere®, Tivoli® and Information Management software – as well as from IBM Systems Group.

Over the past few years, the IBM Rational software division has aggressively revamped its product portfolio to move to a more Eclipse platform-based foundation. The figure on the next page illustrates the Eclipse platform's relationship with the major product groupings of the IBM Rational Software Delivery Platform. Process, analysis, design and software quality products – such as IBM

Rational Software Modeler, IBM Rational Software Architect, IBM Rational Application Developer, IBM Rational PurifyPlus™, IBM Rational Functional Tester, IBM Rational Manual Tester and IBM Rational Performance Tester software – are all built directly on top of the Eclipse platform. Additionally, other lifecycle management tools now have new and improved integrations with the Eclipse platform, including IBM Rational ClearCase®, IBM Rational ClearQuest® and IBM Rational RequisitePro® software.



© Copyright IBM Corporation 2007

IBM Corporation
Software Group
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
01-07
All Rights Reserved

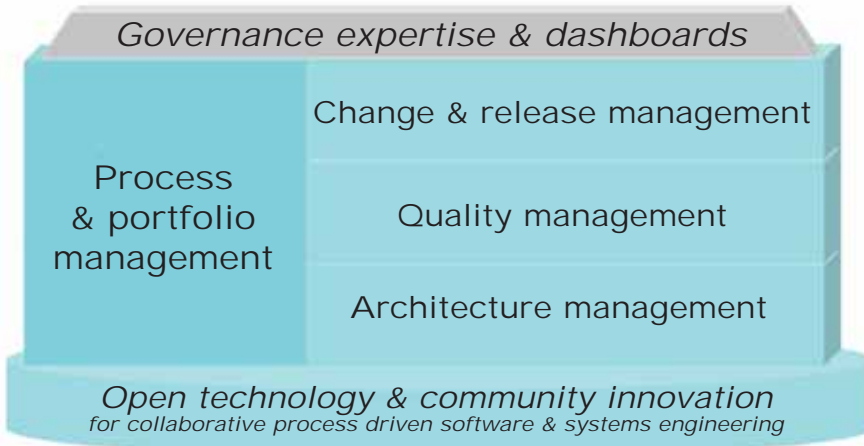
ClearCase, ClearQuest, IBM, the IBM logo, Lotus, PurifyPlus, Rational, RequisitePro, Tivoli and WebSphere are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both.

Eclipse, Eclipse Foundation Members are trademarks of Eclipse Foundation, Inc.

Microsoft is a trademark or registered trademark of Microsoft Corporation in the United States, other countries or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Other company, product and service names may be trademarks or service marks of others. The information contained in this documentation is provided for informational purposes only. While efforts were made to verify the completeness and accuracy of the information contained in this documentation, it is provided "as is" without warranty of any kind, express or implied. In addition, this information is based on IBM's current product plans and strategy, which are subject to change by IBM without notice. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this documentation or any other documentation. Nothing contained in this documentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM (or its suppliers or licensors), or altering the terms and conditions of the applicable license agreement governing the use of IBM software.



Rational software makes developers more productive by extending the base Eclipse integrated development environment (IDE) with additional functionality. By leveraging the Eclipse platform's underlying mechanisms, IBM also has created tools optimized for other practitioner roles spanning across the project lifecycle, such as analysts, architects and testers. Eclipse has, in effect, become IBM's next-generation tools integration platform. In addition to tools, IBM also offers IBM Rational Elite Support for Eclipse, world-class technical support for Eclipse that developers need to confidently develop in the Eclipse environment.

A look into the future

Eclipse is now stable, mature and independently managed. Many companies no longer view Eclipse as risky and, in fact, are comfortable starting with base Eclipse and adding support services and additional tools incrementally. We see commercial vendors evolving to support this shift, poised to offer more componentized versions of both value-added tooling and vendor support services. As the Eclipse platform and its associated plug-ins continue to grow, so will the need to manage that growth and resulting complexity.

For more information

To learn more about IBM and the Eclipse platform, please visit:

ibm.com/rational

TITLE UNIFICATION FOR ECLIPSE & NETBEANS INTEGRATION

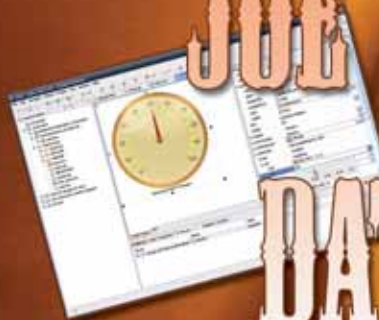
★ SHOWDOWN ★



JOE "CHART FX" CODER

VS

DATA VISUALIZATION



A FULL 6.2 ROUNDS OF CHAMPIONSHIP
HEAVYWEIGHT DATA VISUALIZATION



**BOX
OFFICE**

www.chartfx.com



Undisputed Champion

A KNOCKOUT COMBINATION OF
CHARTS, GAUGES & MAPS FOR JAVA



**BROUGHT
TO YOU BY**
SoftwareFX

Call (561) 999-8888 for more information or download a trial version at www.softwarefx.com

Software FX Brings Data to Life With Chart FX

For most of us, viewing information graphically is a far more effective way of understanding it than seeing data on a spreadsheet. Whether the representation is in the form of a pie chart, bar chart or regional map, a picture is worth a thousand numbers. Helping you bring data in a comprehensible form to the screen is Software FX's specialty. And they're now bringing the power of charting to Eclipse via a plug-in for their Chart FX for Java Designer.

"For a developer building a Web application that includes a data visualization component like a chart, it is very difficult to configure the look and feel of it by just using the API," says Gabriel Albano, Java product manager for Software FX (www.softwarefx.com). "Charts are not shown alone on a Web page; they are usually integrated into a page that shows other information. While getting that chart to show the data you want is a very straightforward process, getting it to look integrated into the rest of the Web application can be time-consuming due to Web development's nature. That's why we have developed Chart FX for Java Designer and integrated it to the Eclipse IDE."

Chart FX for Java Designer is a part of Chart FX for Java, which produces charts in PNG, JPEG, SVG and Flash formats. Chart FX for Java is available as a server-side bean and a JavaServer Faces component that runs on most popular Java application servers. The software includes the designer, as well as NetBeans and Eclipse plug-ins.

Chart FX for Java offers 20 different chart types, customizable legends, ready-to-use color palettes, multiple and customizable axes, per-marker attributes, gridlines, background images and border objects. In addition, it provides tools like

maps, highlighting, statistical analysis, axis sections and conditional attributes.

The Chart FX for Java Eclipse plug-in integrates Chart FX for Java Designer into the Eclipse IDE. You don't have to go out of Eclipse to design your charts. When you use Chart FX for Java Designer, you see how it's going to look at deployment while you're developing it; changes are automatically applied to the chart as you make them.

Say you're developing a Web application and you'd like to add a chart to show some sales figures. The first step is to add the Chart FX library to the project, which means adding a couple of jar files and a license file. Then, you can add a chart to your JSP, just like any other Java object. You create the chart, load the data, and select the output type, width and height.

•
 "Simple integration means you can use Chart FX in any Java development environment."
 •

Run the page and you'll see a chart of your data, with the default look and feel.

Now, if you want to change the look of the chart, you can write code to set a different gallery; add point labels, a title or a legend box; change the color of different chart attributes; add a border and a gradient to that background; and so on. For each change, you run the page, see if it looks good, make adjustments and move to the next setting.

Or, you can use the Chart FX for Java Designer plug-in for Eclipse, which will add a template file to the project and open it in the designer. Then, you can start the customization by selecting options from the property list and see-



Gabriel Albano: product manager

ing the changes applied onscreen. When you're done, go back to the JSP and add just one line of code to read the template file; run it again and you'll see the chart with your data and the design you created—without leaving Eclipse.

Albano summarizes the key features of Chart FX for Java: "Simple integration, broad reach and advanced data visualization.

"Simple integration means you can use Chart FX in any Java development environment," he says. "You can develop in whatever Java environment you like because we do not have any requirements other than a minimum Java version. For Eclipse users, we provide additional features and integration. Broad reach means that you can deploy in any Java platform by just adding a simple jar file.

"Finally," he adds, "advanced data visualization refers to the extensive feature set included in the component: multiple data source support, several output types and advanced visual attributes, while maintaining a straightforward API. Combined, all these features give developers a tool that serves their needs, whether the requirement is a simple chart or a complex dashboard." •

SoftwareFX

Perforce | The Fast Software



PERFORCE
SOFTWARE

P4WSAD, The Perforce Plug-in for Eclipse

P4WSAD enables you to access Perforce from within Eclipse and any of the WebSphere Studio family of products.

P4WSAD features:

- Support for all basic Perforce file operations.
- Views for pending changelists, revision histories, and a Perforce console.
- Built-in differencing, job support, rename, and move.
- Support for automatic file checkout and numbered changelists.
- Decorations for Perforce-managed files, including indicators for files that are synced, opened, locked, or unresolved.
- Support for IBM Rational Application Developer 6, Eclipse 3.1 and 3.2.
- Work offline when the connection to the Perforce Server is not available.

All trademarks and registered trademarks are property of their respective owners.



**Download a free copy of Perforce, no questions asked, from www.perforce.com.
Free technical support is available throughout your evaluation.**

What's so hot about BIRT?

- It's the fastest growing open source reporting technology
- It's one of the most popular Eclipse Projects
- It's downloaded over 100,000 times quarterly

Actuate provides a set of value-added products on top of the core open source BIRT technology: Indemnification Support AJAX interactivity • Scheduling • Security • Access Multiple Data Sources • Collaborative Reporting Architecture



The hottest Eclipse technology out there.



Actuate Extends Eclipse BIRT Functionality Into the Enterprise

Reporting is important to just about any organization, whether they need to track sales trends, adhere to regulatory requirements like Sarbanes-Oxley or HIPAA, or turn raw database information into charts and tables. All this and more are possible using Eclipse's Business Intelligence and Reporting Tool, best known as BIRT. While BIRT on its own is a powerful resource, one leading company, Actuate Corp., has built upon the project's capabilities to create even more powerful business solutions. Actuate's BIRT-based products remain close to Eclipse's roots, contributing both code and knowledge to the popular open-source project. In fact, Actuate leads the BIRT project and was the driving force behind the initial project proposal.

"We're doing a lot with the Eclipse Foundation's BIRT top-level project and open source community, and we're building value on top of that," says Paul Clenahan, Actuate's vice president of product management. "From a commercial standpoint, we're building upon the backbone of BIRT to provide additional functionality that users frequently need in addition to what's included in the open source project."

The BIRT open source project addresses a key challenge that developers face when building applications that gather data and store it in a database for things like CRM applications. The challenge is building an application that includes the ability to generate meaningful information from that raw data. Actuate and the other contributing companies created BIRT as a technology to let developers and users quickly and easily pull information out of a variety of different data sources, format it, present it in the form of reports, and build the capability into their applications.

BIRT is a 100% pure Java reporting



tool for building and publishing reports against data sources ranging from typical business SQL databases to XML data sources, to in-memory Java objects. BIRT includes report and chart designers, as well as runtime components for generating and deploying BIRT reports in Java and Web applications. The BIRT Report Designer provides wizards and point-and-click layout capabilities that are similar to many Web page design tools—making them very familiar and easy to learn for developers. In addition, scripting capabilities and an extensive API allow Java developers and ISVs to tailor BIRT to their specific needs.

BIRT reports can be as simple or complex as required, combining text, images, rules, charts, tables and other elements in a single document or Web page. BIRT also provides support for global application language needs. Using BIRT, a single report can display strings in various languages and can adapt date and numeric formatting and item widths to global languages.

Actuate (www.actuate.com) also offers a number of complementary commercial products that build on what the open source BIRT project provides.

Clenahan explains that when Actuate talked to BIRT users, there were a number of common capabilities that people typically built on top of the open source project. For example, while the BIRT project provides extensive reporting technology, enterprise users need to schedule reports that are automatically generated and distributed via e-mail. So, rather than have every BIRT user build this from scratch, Actuate decided to offer these kinds of capabilities in the form of commercial products.

Another requirement that Actuate commonly heard was the ability to make reports more self-service and interactive, so that business users won't need developers to program all the required reports. To solve that problem, Actuate provides two AJAX-based products: BusinessReport Studio, which allows business users to cre-



Paul Clenahan: vice president of product management

ate BIRT reports using a Web-based interface; and the Interactive Viewer, which allows users to view BIRT reports interactively, including re-sorting the report, filtering and so on.

Both products are easy to use: anyone who can use Microsoft Office can use BusinessReport Studio and the Interactive Viewer. "In the old world, Java developers had to respond to every user request," Clenahan adds. "Now we can empower business users to create their own reports and answer ad hoc business questions leveraging all the same core technology."

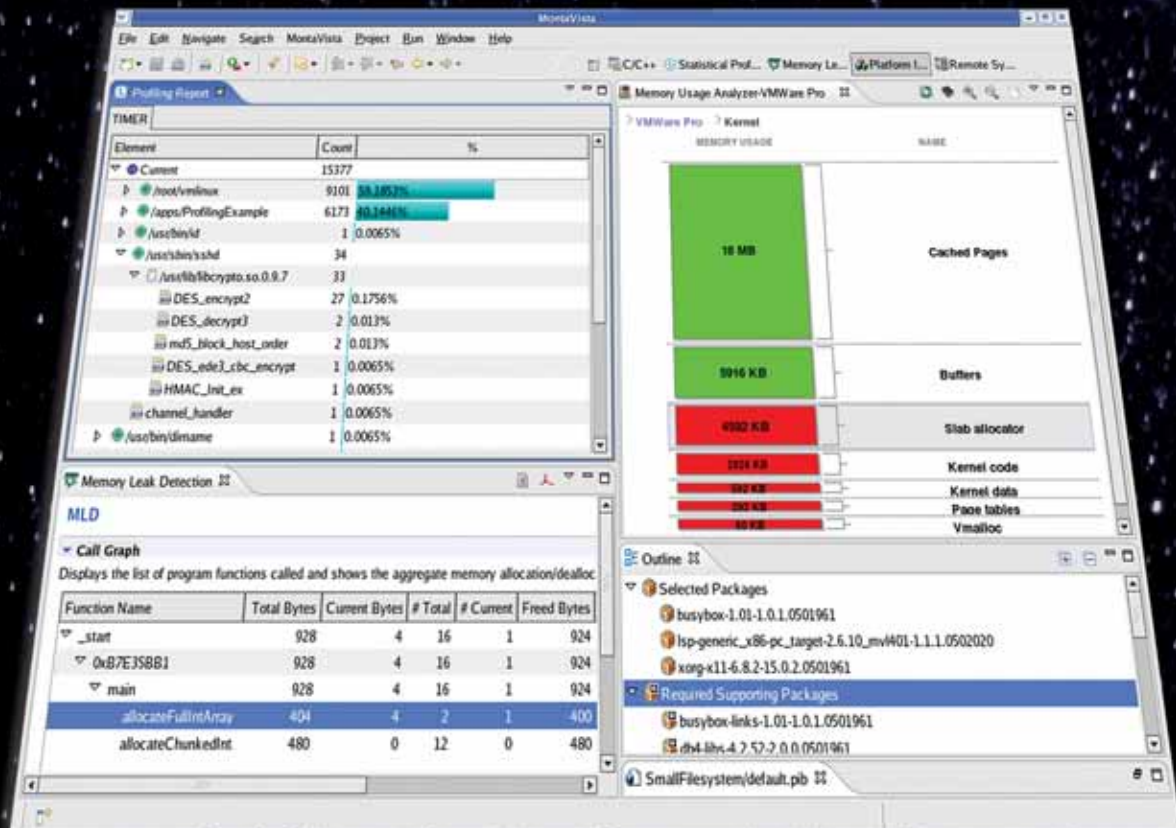
On the open source side of the coin, Actuate is helping to update BIRT for the Europa platform release, scheduled for this year. Like Callisto, all the top-level projects in the Eclipse community will be coordinated in a simultaneous release of technology in the package.

Actuate is committed to Eclipse and BIRT, and for good reason. "The key aspect of Eclipse is its inherent extensibility," Clenahan says. "The extensible Eclipse framework allows ISVs and application developers to build applications that include BIRT reporting capabilities. The framework also allows commercial manufacturers like Actuate to build high-value complementary products on top of BIRT technology. Both of these benefits are why the Eclipse ecosystem is so successful." ●

EMBEDDED LINUX

*The Final Frontier:
Get there faster with*

devrocket



Come see DevRocket in action at
ESC Silicon Valley, April 1-5, 2007, Booth 1640.

montavista™

MontaVista Accelerates Time-To-Market for Linux-based Devices

Why do embedded Linux developers choose MontaVista Software (www.mvista.com) for their developer tools and OS platform? Because the seven-year-old company has a track record, second to none, for helping projects get to market faster. An Eclipse leader since 2002, MontaVista's latest development tool, DevRocket 5.0, plugs right into the standard Eclipse IDE, providing developers with control and flexibility while dramatically increasing efficiency.

DevRocket 5.0, available this month, gives developers the ability to use MontaVista plug-ins within any Eclipse-based IDE. This allows greater flexibility for the developer with complete access to the Eclipse ecosystem. Development teams supporting multiple tools and operating systems no longer face the overhead and unnecessary replication of multiple separate, vendor-specific IDEs.

For developers without an Eclipse framework in place, DevRocket 5.0 delivers and installs the Eclipse IDE, the Eclipse C/C++ Development Toolkit (CDT) and the Eclipse Remote System Explorer (RSE), exactly as they're available from Eclipse.org, if the developer chooses.

MontaVista offers exactly what embedded Linux developers want and need to be more productive, explains James Ready, the company's founder and CEO. "MontaVista's new tools are designed and engineered specifically for Linux with the direct input from our installed base of over 2,000 customers worldwide. DevRocket 5.0 provides application and system developers of MontaVista Linux the right tools for the job," he says.

Ready adds that MontaVista is building Linux-aware debugging and analysis tools that are intuitive and interactive within the Eclipse IDE. "Following an open-source software release model, we

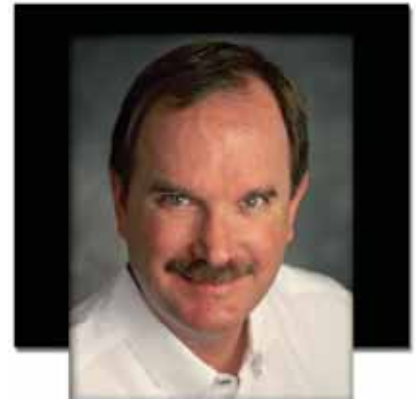
are providing a more aggressive delivery cycle, with the agility and flexibility that organizations require," he says.

As part of DevRocket 5.0, MontaVista's new delivery schedule will deliver updates—including maintenance patches and new features—on a regular and frequent release schedule. Thanks to this new program, customers receive continuous value for their subscription dollars with the opportunity to drive the prioritization of new tools, thus enabling quicker delivery of the features they need.

The popular MontaVista DevRocket IDE is a full tool suite, with a wide range of development and analysis tools for MontaVista Linux that work within the Eclipse IDE. Some examples include standard project management for MontaVista Linux C/C++ applications using CDT Managed Make, SSH-based target management with RSE, and advanced analysis solutions that extend and plug into standard Eclipse.

All of MontaVista's developer tools are designed specifically to solve the traditional major challenges faced by embedded Linux application and system developers. For example, the plug-in automates the discovery and use of current and future MontaVista Linux installations, right from the Eclipse IDE, providing the unique feature to dynamically select any discovered tool chain from within a single project. It also enables developers and testers to connect seamlessly to MontaVista Linux target systems using SSH, and to build and debug MontaVista Linux applications using the standard, unmodified Eclipse C/C++ Developer Toolkit.

That's not all, of course. New features added to the IDE by the DevRocket 5.0 plug-in help developers understand memory usage, find memory leaks, profile the system and applications to find performance bottlenecks, fully trace a system, and more easily build and configure platform images. There's a lot of value-add for the embedded Linux developer.



James Ready: founder and CEO

"IDEs are all about improving developer productivity," explains Ready. "The MontaVista DevRocket environment accelerates productivity, reducing cost and shortening time-to-market by extending and integrating traditional software components to automate the standard tasks of development on remote targets." Also, MontaVista simplifies the configuration and usage of best-of-breed Linux analysis tools to help developers quickly identify and resolve common performance, stability and memory utilization problems.

He adds, "Our solutions improve software quality by reducing late porting and integration risks common to embedded development, by providing a complete environment for building and testing applications on a representative MontaVista Linux virtual target at the very beginning of their development cycle."

With its offerings, MontaVista now supports Eclipse in a fully "standard" way by providing its developer tools as plug-ins and extensions, giving embedded Linux developers full access to the broad Eclipse ecosystem. "We provide the ultimate embedded Linux development solution in concert with our MontaVista Linux embedded OS platform," concludes Ready. "We are and will continue to be committed members and contributors to Eclipse." That's a message that embedded Linux developers are delighted to hear. ●

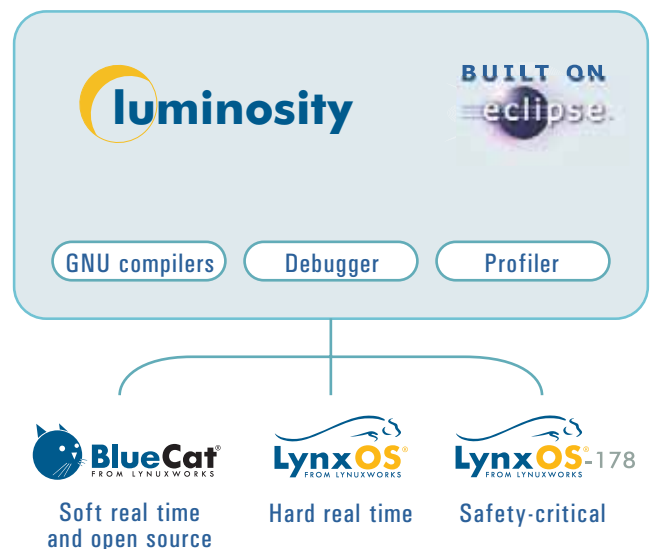
Does Eclipse support open-standards real-time operating systems?



OH YES.

Luminosity IDE is a Linux[®]-, Windows[®] and Solaris[™]-based IDE powered by the Eclipse platform, giving developers complete control over creating, editing, compiling, managing and debugging C/C++ and Java embedded and real-time applications.

Luminosity delivers an array of features that provides embedded system developers a simplified, flexible platform to accelerate product time-to-market. Luminosity supports both BlueCat[®] Linux[®] and LynxOS[®] real-time operating system.



LynuxWorks Lights Up Embedded Linux Using Eclipse

When you bring Eclipse to embedded development, you can use the world's most powerful IDE to build everything from anti-lock brakes to cell phone applications. And how do you bring Eclipse to real-time and embedded development? By using Luminosity, an Eclipse-based tool suite from LynuxWorks.

"Luminosity gives you a common interface no matter which operating system you're using and which target platform it's running on," says Robert Day, vice president of marketing for LynuxWorks (www.lynuxworks.com). "The nature of Eclipse is that it works across different platforms, so basing Luminosity on the Eclipse IDE made sense. Unlike enterprise development, where it's the host environment that's most important, to us it's actually the target environment that's more important, although having an IDE like Eclipse that will support many development hosts also really helps."

The Luminosity tool suite is a complete embedded development environment that works across all of LynuxWorks' supported operating systems regardless of host development platform or target processor architecture. Luminosity is Java-based and runs on Solaris, Linux and Microsoft Windows hosts. It's designed to accelerate time-to-market for embedded systems developers by providing a way to create, edit, compile, manage and debug C/C++ embedded and real-time applications.

"Eclipse offers embedded users something that they haven't really had before: a common framework," Day explains. "Our customers could be targeting embedded Linux one day and targeting LynxOS the next, without changing their environment."

To use Luminosity to build an application, start by building the operating system for your target hardware. Next, add your own applications

using wizards in the tool's build perspective. This adds the appropriate compilers and libraries to build a complete embedded system. The compiled software is downloaded to the embedded target system, and the debug perspective provides RTOS-aware embedded debugging. All of this happens, from design to build, to debug and test, without leaving the familiar Eclipse-based environment.

In addition to its Luminosity tools, LynuxWorks offers four different operating systems based on open standards:

- LynxOS-SE RTOS is a time-space-partitioned, hard real-time operating system with the ability to run POSIX, ARINC 653 and Linux applications simultaneously in their own brick-walled partitions.
- LynxOS-178 RTOS is a POSIX-conformant, DO-178B-certifiable RTOS used extensively in military and aerospace safety-critical real-time systems.
- LynxOS Embedded RTOS is a hard RTOS for real-time systems, offering a unique Linux application binary interface (ABI) allowing Linux programs to run unmodified.
- BlueCat Embedded Linux is a Linux OS enhanced for embedded systems ranging from small consumer-type devices to large-scale, multi-CPU systems.

"By taking an open standards approach to all our products, our customers can maximize reuse of software, lower the cost and increase the reliability of their embedded systems, and ultimately bring their product out on-time and on-spec," Day says. "We are moving all proprietary and other platforms over to Eclipse. We feel that the integrated nature and openness of the Eclipse environment is the best thing for our RTOS users."

Code reuse, of course, is a key benefit of open source: You can take code that's already built and tested, and migrate it to the next device, minimizing development cost and shortening the product cycle.

You can also use applications from other parts of the open source or commercial world in your embedded target. Say you're



Robert Day: vice president of marketing

writing code for an embedded device and you want to plug in a Web browser to allow users to communicate with it. Having a Linux- or POSIX-based interface allows you to bring an open source or a commercial Web server into your product, instead of building your own.

"That's a key benefit of Eclipse, Luminosity and the operating systems that we provide," Day says. "They promote the reuse of code and, in time-to-market situations, the less you have to write and test yourself, the more chance of having your product come out on time and on budget."

LynuxWorks is very active in promoting Eclipse in the embedded community. As chairman of the Eclipse embedded work group, Day helps plan embedded Eclipse activities, including bringing together the many vendors in the embedded market that use Eclipse. It's encouraging that there are two projects—the CDT (C/C++ Development Tools) Project and DSDP (Device Software Development Platform Project)—helping standardize how embedded developers work.

"A lot of what the embedded developers are doing when they're not getting down to bits and bytes is not dissimilar to what the enterprise developers are doing," Day says. "Embedded developers want the ability to move across operating systems and have a similar environment. That's what Eclipse offers to our industry." •

Genuitec Takes Eclipse Beyond the Ordinary

Genuitec's MyEclipse is not, as they say, your father's Eclipse.

With the release of Genuitec's Fusion Technology and SNAPs (Simple Non-integrated Applications), the constraints of Eclipse-based tools have been alleviated with lean, portable offerings.

"Fusion Technology, specifically the SNAPs, does more than just provide agile applications for that 'quick and easy' fix that doesn't require the full IDE," says Todd Williams, vice president of technology. "It allows users to free their desktops from the common vendor lock-in headaches we've all experienced. SNAPs can be used with any other IDE or toolkit, allowing our users maximum flexibility in their chosen workspaces."

There are four SNAPs available to users, providing Web Design, XML Editing, Database Management and Image Editing capabilities. The SNAPs are included in the MyEclipse distribution at no extra cost.

It's this type of consistent, productivity-increasing innovation that has enamored developers over the past three-plus years of MyEclipse's time on the market, and historically driven 100 percent annual growth in MyEclipse adoption. "We currently have 400,000 users, and that number is expected to nearly double by the end of 2007," Williams says.

While the SNAPs may be the most newest Genuitec innovation, it's the other 1,200-plus features intertwined into the MyEclipse IDE that have been the company's hallmark. Blending open standard solutions with their own proprietary tools has made MyEclipse into one of the most encompassing toolkits available.

While it's impossible to list all of MyEclipse's features here—for that, see MyEclipseIDE.com—here are a few highlights: a JSR-45-compliant source-level

debugger, an integrated database explorer and entity relationship diagram, reverse-engineering capabilities, and convenience features like the ability to drag-and-drop tables and views onto an entity relationship diagram to create or update it.

If you're involved in rapid application development, MyEclipse eliminates the need to hand-code a persistence layer. With visual page-flow editors, you can generate configuration files, actions and beans for your Web tier. UML is also supported, as are Spring and Hibernate. MyEclipse's Web 2.0 AJAX features include a JavaScript debugger that allows you to inspect a page's source code (both rendered HTML and source views) with its multi-page Web 2.0 browser.

MyEclipse integrates the Matisse4MyEclipse Swing UI designer (ported from Sun's NetBeans) to help you build graphical user interfaces. Built on the XFire framework, MyEclipse's Web services support helps you address configuration, development and deployment concerns. To aid in database development, deployment, testing and compatibility, MyEclipse supports more than 30 application servers and 30 databases, offering sync-on-demand deployment.

With all this functionality, what would you expect to pay for a product like Genuitec's MyEclipse? A lot more than its US\$29.95 to \$49.95 per-seat price. "Our toolkit is comparable to quality IDEs like those from IBM Rational, which can sell for more than 100 times our subscription cost," Williams says. "But we're different from legacy tools providers in that we have a product update every six weeks or so; usually one major release per quarter. This keeps Eclipse users on the latest technology. We include world-class support and detailed documentation for all of our subscribers and users taking advantage of our free trial period. Bottom line: We deliver great value." ●



While it's impossible to list all of MyEclipse's features here—for that, see MyEclipseIDE.com—here are a few highlights: a JSR-45-compliant source-level

MyEclipse

ENTERPRISE WORKBENCH

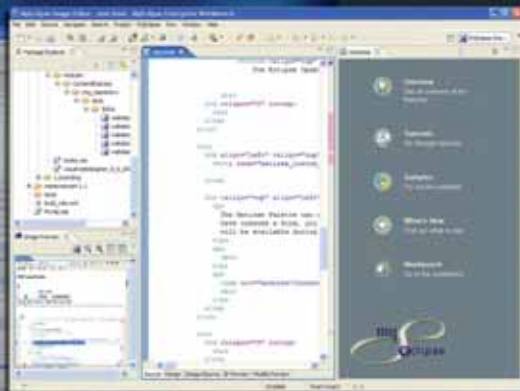
the leading
J2EE IDE
POWERED BY GENUITEC

Free 30-Day Trial

Open Standards Based

AJAX Compatible

www.myeclipseide.com



Sparx Systems Puts the Spark in UML

To create a graphical view of an application that can be used before and during coding, many development teams turn to Unified Modeling Language (UML). This software technology can often help to streamline the planning, design and construction of software and business systems. In the area of UML, look no further than Sparx Systems.

"We focus on creating innovative modeling solutions based on UML 2.1 and its related specifications," says Sam Mancarella, Chief Technical Officer. "Sparx Systems, as an active Contributing Member of the Object Management Group, is committed to expanding the potential of model-driven development based on open standards."

Sparx Systems (www.sparxsystems.com) offers a product suite that comprises its flagship product, Enterprise Architect, and MDG Integration for Eclipse, a plug-in that brings Enterprise Architect's model-driven analysis and design capabilities right into the Eclipse environment.

Enterprise Architect enhances all aspects of the development life cycle. Its integration with the Eclipse environment provides access to system models in an environment already familiar to the user: integrating UML into the development team's existing tool chain. Enterprise Architect enables managers to capture project requirements, perform project risk analysis, allocate work assignments to colleagues, monitor progress and generate documentation.

Within Enterprise Architect, architects can document high-level application structure and behavior, persistence models and deployment structures. They can also import and analyze legacy code for reengineering. Developers and coders can then use these models, integrated within

the Eclipse environment, to facilitate building their application.

Meanwhile, testers can use Enterprise Architect within the Eclipse environment to describe unit and system tests for specific artifacts or across the entire UML model. They can derive JUnit-compatible test cases from the model; then execute and capture the results of those tests.

MDG Integration for Eclipse and Enterprise Architect are unparalleled in their end-to-end traceability, scalable team-oriented modeling environment and rich productivity tools. With the ability to capture and trace development from early analysis and requirements gathering right through the design and construction phases, integration can become a valuable part of the team experience, helping managers, analysts, architects and developers share a common vision and build the right software efficiently and cleanly.

With MDG Integration, UML models for analysis, design and development work are easily navigated within the Eclipse IDE. Likewise, source code can be visualized through reverse-engineering tools, and a dynamic debug facility can convert running Java code into UML sequence diagrams. Team communication is further enhanced with built-in discussion forums, security, version control and customizable views.

Both Enterprise Architect 6.5 and MDG Integration for Eclipse 1.0 are now available, with active development of the products continuing in 2007. "Sparx Systems is committed to providing the Eclipse community with all the benefits of an integrated approach to modeling and design," Mancarella says. "Our integration of Enterprise Architect and Eclipse delivers this capability in a unique and intuitive way." ●

SPARX
SYSTEMS



Keep on Track and Share the Vision

Provide Eclipse developers with access to UML blueprints directly within Eclipse. MDG Integration for Eclipse helps keep architects, analysts and developers all on the same page.



UML Modeling and Repository

- Requirements
- Architecture
- Documentation
- Searching
- Code Engineering
- Database Modeling



Direct access to UML 2 models and information



Coding, Compiling, Debugging, Testing, Deployment, Maintenance

UML® 2.1 IN ECLIPSE™

Sparx Systems integrates Enterprise Architect into Eclipse, bringing UML 2.1 to your favourite IDE

- Navigate and refine the development model using UML
- Allow model and code to become one
- Generate template driven Rich Text or HTML reports
- Share blueprints between project team members
- Fast-track development with MDA transforms
- Model database schema, WSDL and XSD documents

SPARX
SYSTEMS

Download Your Free 30 Day Trial of MDG Integration for Eclipse at:
www.sparxsystems.com/eclipse

LEARN HOW TO BUILD BETTER SOFTWARE USING ECLIPSE!



HYATT REGENCY RESTON
RESTON, VA

NOVEMBER 6-8, 2007

- BECOME AN ECLIPSE MASTER**
by taking classes from top Eclipse experts with real-world experience.
- HIT THE GROUND RUNNING**
with the Eclipse Rich Client Platform (RCP).
- GO BEYOND THE IDE**
to master the wide range of Eclipse technologies.
- GET DEEP INSIDE**
Eclipse's open-source architecture.
- DISCOVER THE BEST, MOST EFFECTIVE**
Eclipse add-ins and plug-ins.
- IMPROVE YOUR UI PROGRAMMING**
using the Eclipse RCP.
- FIND OUT WHAT'S NEW IN ECLIPSE**
— and what's coming in the exciting Europa update!

CHOOSE FROM MORE THAN 60 CLASSES LIKE THESE!

Successful Architecture Design for Rich Client Platform Applications

Advanced User Interface Programming Using the Eclipse RCP

Fundamentals of the Eclipse Modeling Framework

Practical Design Patterns for Rich Client Development

Building Commercial Quality Plug-ins

Build Better Graphical Editors With the Graphical Modeling Framework

Developing Rich Applications With JSF and AJAX

Quick Tour of the Eclipse Web Tools Platform

First Steps for Building and Deploying Eclipse RCP Applications

Web 2.0 the Eclipse Way With the Rich AJAX Platform

Polishing Eclipse Rich Client Applications

How to Develop Web Service Applications in Java

Fundamentals of RCP User Interface Programming

Leveraging BIRT Reporting

Leveraging Model-Driven Development and the Eclipse Platform

THE LARGEST COLLECTION OF CLASSES ON MASTERING THE RICH CLIENT PLATFORM (RCP) ANYWHERE!



www.eclipseworld.net

For sponsorship opportunities or exhibiting information, contact Donna Esposito at 415-785-3419 or desposito@bzmedia.com.

WASHINGTON, D.C. AREA!

REGISTRATION OPENS FRIDAY, MAY 25!