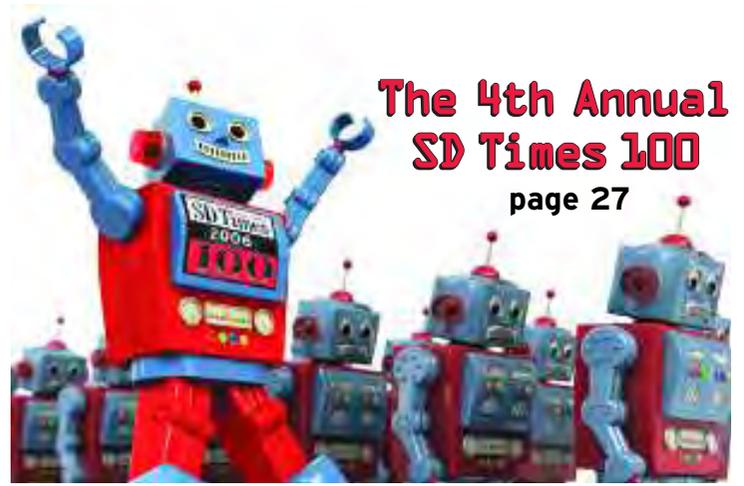


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page 27

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GPL Patent Rule Pending License might limit infringement lawsuits

BY ALEX HANDY

A provision regarding patent protection in a draft of the upcoming revision to the GNU General Public License has concerned corporate patent holders, who are worried that the new license will limit their ability to protect their software patents.

Of particular interest is a section of GPL 3 that dictates the protocol for patent litigation retaliation.

Under the current draft (gplv3.fsf.org/draft), if a company or individual modifies a GPL program, then enforces a software patent to prevent others from modifying the program in the same way, the litigious party

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OSDL's Peters hopes a provision that she says would limit patent lawsuits is dropped.

Borland Plans Reorg, Layoffs, Expects Losses

BY JENNIFER DEJONG

Three months after it put its IDE business on the block, Borland Software announced plans to restructure the company and cut its workforce by 20 percent.

As part of the reorganization, Borland has separated its IDE business, known as the Developer Tool Group, from the rest of the company, which sells application life-cycle management tools and services.

"As we go through the process of selecting a buyer, we have separated the [IDE] team from the rest of Borland," said Mike Hulme, Borland's senior director for product marketing. "This way,

there is no confusion. Otherwise we were fighting for resources within Borland."

Asked about potential buyers, he said Borland is working to have one identified within the next several months. "We have received a large volume of inquiries from our banker. We are vetting those." Further details were not made available.

Borland has retained invest-

ment firm Bear Stearns to sell the IDE products, which include JBuilder, Delphi, C++Builder and C# Builder. In February the company announced it was seeking a buyer for its IDE business.

Borland named Nigel Brown, who previously ran European operations, as general manager of the Developer Tool Group, which includes 180 employees. Paul

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With Objects, App Components Ready for SOA, Data Is Next on Tap

BY EDWARD J. CORREIA

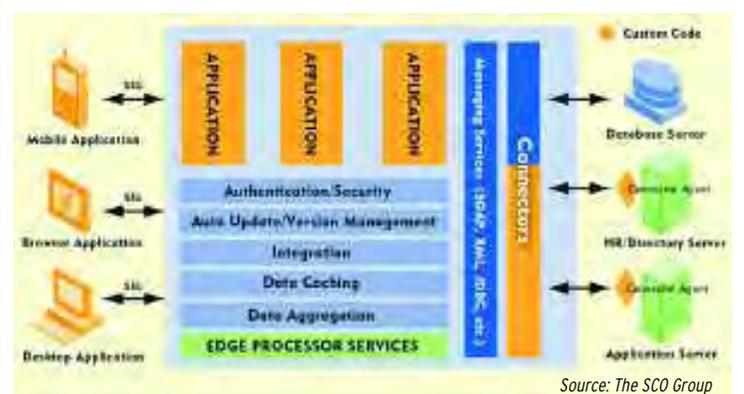
As developers become comfortable with the standards for dividing applications into interoperable services, SOA tool makers are turning their attention to the data layer, and working to standardize ways of assembling SOA components into versatile composite applications.

With the innumerable data sources that developers are likely to encounter—the number is growing literally every day—it will become increasingly difficult to hand-code the con-

nections and virtually impossible to maintain them.

According to Ted Friedman, a Gartner research vice president, the emergence of SOA will mean that "data is

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Source: The SCO Group

SCO's EdgeClick solution requires custom code for as many as four components.

SCO Makes Strides Toward Mobile Strategy

BY EDWARD J. CORREIA

The SCO Group continues to move its mobile strategy forward. Later this month the company will begin beta testing EdgeBuilder SDK, an Eclipse-based tool set for extending enterprise applications and data from its OpenServer and UnixWare systems to wireless and mobile

devices running Java, Palm OS and Windows Mobile.

EdgeBuilder is one of four components in EdgeClick, the company's mobile development and deployment platform. The suite also includes EdgeClick Processor, a server-side component for Unix and Windows that

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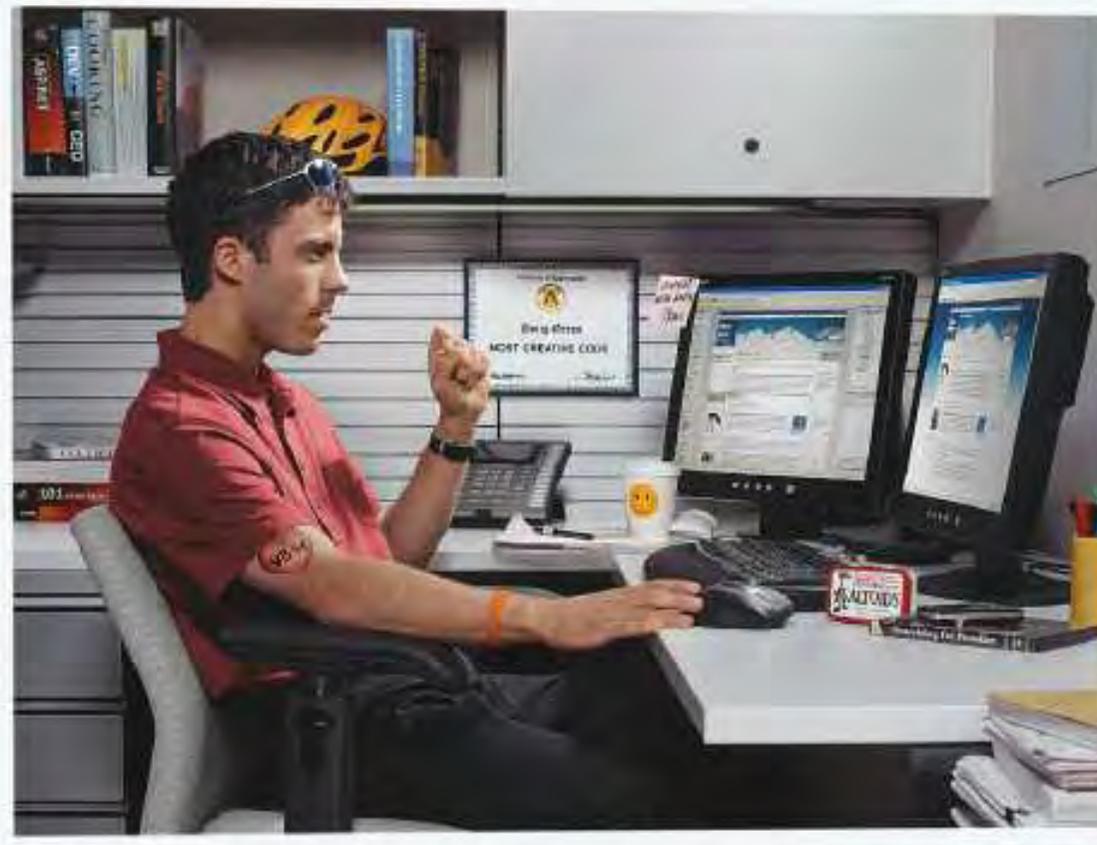
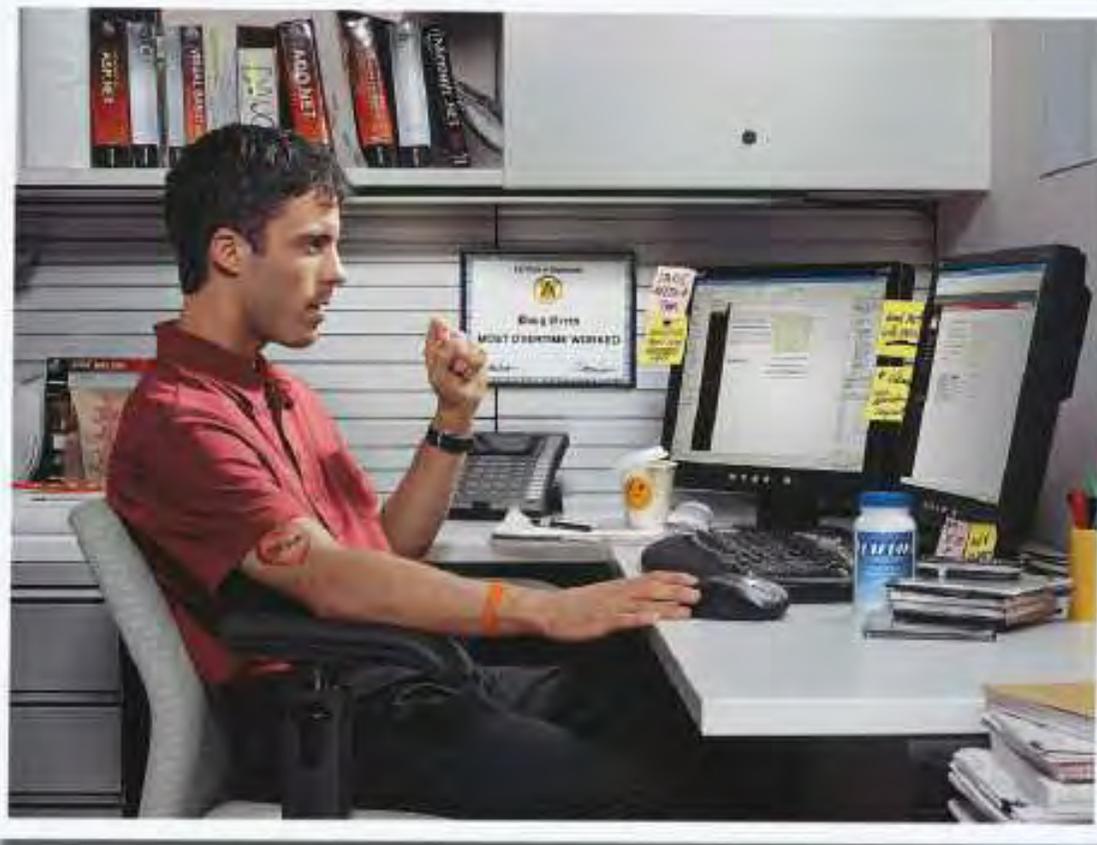
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SOALink Alliance to Go One-on-One

Group will work to establish best practices for point integrations

BY EDWARD J. CORREIA

What is a service-oriented architecture? What's the best way for two companies to connect their data systems as trading partners? As with many of today's technologies, the answers often vary depending on whom you ask.

To combat this problem, a group of companies has formed SOALink, an alliance to create a set of development practices for the integration of systems in this type of architecture.

"Use cases are more fine-grained than the specifications available," asserted Miko Matsumura, vice president of technology at Infravio, which has spearheaded the effort. "So what we're doing is getting customer requirements and using the standards to create best practices for interoperability."

The group, which includes about a dozen integration and SOA tool makers, plans to use existing specifications and protocols to develop interoperability connections among them, he said. They will publish the methodologies on a Web site (www.soalink.com) at first on a peer-to-peer basis, but ultimately for anyone to see and use free of charge, Matsumura said. "It's about sharing information about how we're meeting customer requirements," he added. The site also will offer whitepapers, presentations, Web-based seminars, news, information and blogs, he said.

But at least one company

believes this approach may be flawed.

Joe Keller, vice president of SOA and integration platforms at Sun Microsystems, which is not part of the alliance, questioned the usefulness of developing such point-to-point connections. "What do those combinations give me? If you want to use Iona with Infravio, what are the things I am going to be able to do? What are the interoperability points they will work on?"

Keller pointed to the Java Business Integration specification (JSR 208) as helpful for defining underlying protocols that can be used for building point solutions, but asserted that there are not enough resources to build all the possible permutations.

"It's not useless, but it's expensive," he said of the effort. "The thing to do is to get at the lower-level issues for interoperability; [to build a

few] many-to-many relationships instead of many one-to-one relationships."

SOALink's initial members also include AmberPoint, Composite Software, Forum Systems, Intalio, Iona, JBoss, Layer Technologies, LogicBlaze, NetIQ, Parasoft, Reactivity, SOA Software, SymphonySoft, webMethods and WS02.

Why are IBM, Microsoft, Oracle and Sun absent from the initiative? "We're an open

organization, and would be pleased to see members that represent large numbers of customers," said Matsumura. "We intend to add vendors and will be announcing new ones as we go along."

Keller said that to his knowledge, Sun has not yet been contacted. Of the effort, he said, "I salute the objective, [but] I am interested to find out what the actual method will be." ■

New Red Gate Tool Clarifies DB Relationships

BY P.J. CONNOLLY

One of the trickiest parts of database design is dependency management; changes in one table can affect databases throughout an enterprise. Without a clear understanding of relationships between databases, a seemingly harmless modification can have catastrophic effects. Enter Red Gate Software's SQL Dependency Tracker, which the com-

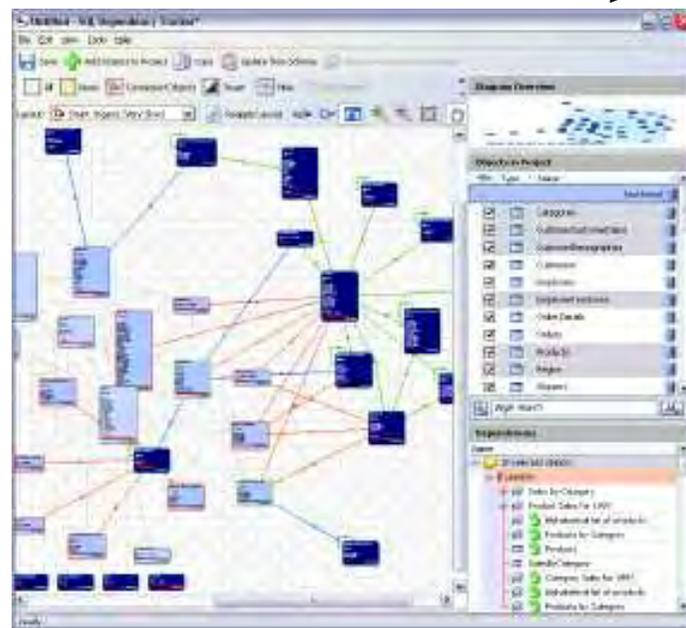
pany claims is the first graphical and interactive tool of its kind.

Designed for use with Microsoft SQL Server, SQL Dependency Tracker follows the use of database tables across databases as well as servers. It provides customizable views, permits export in graphical and XML formats, and allows DBAs and developers to accurately document database interrelationships.

SQL Dependency Tracker actually had its genesis in an intern's summer project. "Nobody really cared about what we thought was the original purpose," said Dan Archer, Red Gate's lead developer on SQL Dependency Tracker. "They weren't really worried about fixing up their sysdepends [table, found in every SQL Server database]; they just wanted to track dependencies [and] to do the analysis of the impact of changes on a database before that change happened."



Users want to assess the impact of a change before it's made, says Red Gate's Archer.



SQL Dependency Tracker gives DBAs and developers an understanding of relationships between SQL Server databases at a glance.

SQL Dependency Tracker is available now from Red Gate; stand-alone pricing is US\$295 but is half-price when purchased

with one of Red Gate's current SQL tool bundles. Red Gate expects to include SQL Dependency Tracker in future bundles. ■

Java EE 5 Runtime License Changes to Accommodate Open Source

BY ALEX HANDY

With the release in May of Java EE 5 and Enterprise JavaBeans 3.0—the JCP unanimously voted to approve both—Sun Microsystems announced that it would be changing the licensing under which its Java runtime environment is distributed, making it possible to distribute it with open-source operating systems such as Linux.

Sun also released Java EE 5 software development and compatibility test kits, and began distributing them to attendees of its JavaOne conference last month.

Java EE 5 was designed from the ground up to facilitate an easier development process. The new version includes drastically reworked persistence capabilities that are based on EJB 3.0. Also added to Java EE 5 are a new API for handling XML requests (JAXWS) and the revised JavaServer Faces 1.2 and JavaServer Pages 2.1 specs, the latter of which now contains a revised and unified regular expression language.

Karen Padir, vice president of the Enterprise Java platform at Sun, said that her staff found that it used 60 percent fewer

classes and 80 percent fewer XML files when developing under Java EE 5.

Jeff Jackson, senior vice president of Java development and platform engineering at Sun, called the modifications to the EJB 3.0 spec the biggest area of change. "It greatly improves the programming model by supporting POJOs [Plain Old Java Objects], which can be easily converted to Web services with annotations and persistence. We also have the Java persistence API," which he said benefited from work done in the Hibernate community and by contri-

butions from Oracle's TopLink O/R persistence engine.

"Oracle's contribution of TopLink Essentials, the first open-source JPA implementation included in the Java EE 5 SDK, not only underscores Oracle's commitment to supporting open standards, but also recognizes the significant advancements in Java development," Steven G. Harris, vice president of Oracle's Java Platform Group, said in a statement.

The move into Java EE 5 comes alongside Sun's appointment of Richard Green as its new executive vice president of

Sun software. Green was instrumental in the creation of the Java Standard Edition, Micro Edition and Enterprise Edition platforms, and returns to Sun after having held the position of executive vice president of products at Cassatt, a virtualization firm.

As for the Java runtime environment, the license switch will take place at JavaOne. Sun has not made public the license under which it will now distribute the environment, but representatives of the company did say that the new license should expand the installed base of the JRE. ■

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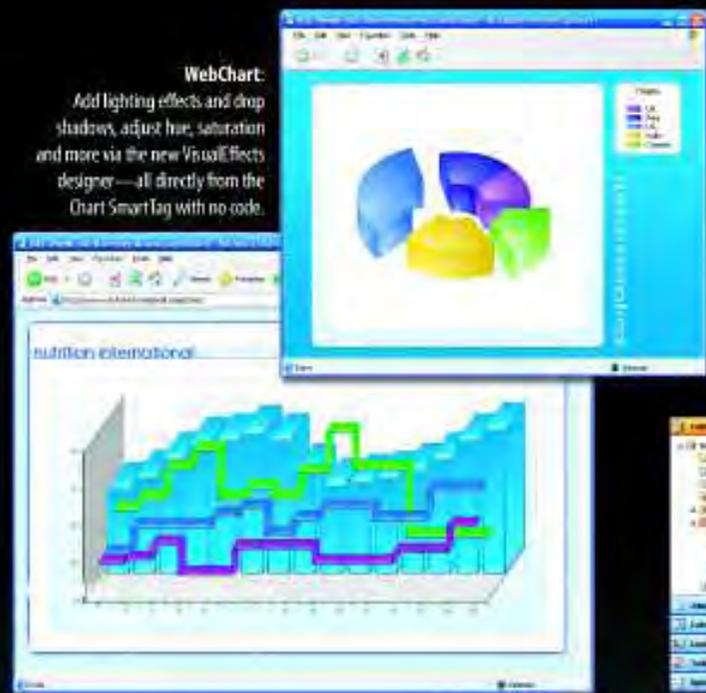
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Business Process, Portal Tools to Make Mainframe Debut

BY JENNIFER DEJONG

When it comes to legacy applications, many companies talk about moving workloads off the mainframe. But IBM is betting its customers will do just the opposite.

The company last month announced System z mainframe versions of WebSphere Process Server, WebSphere Enterprise Service Bus, WebSphere Portal and Tivoli Federated Identity Manager, four offerings previously available only for smaller servers. "We have done a number of things to improve support for the IBM System z mainframe, enabling customers to put bigger workloads on it," said IBM distinguished engineer Hayden Lindsay, a director of design and construction tools for Rational.

IBM also unveiled a Rational update that generates COBOL and discussed the beta version of its DB2 relational database, for the System z operating system.

WebSphere Process Server for IBM System z, expected this month, provides developers with graphical tools to separate the execution of business processes—and business rules—from the application, said Lindsay. "In the past, business processes were executed [on smaller] platforms, even when applications and data were on the mainframe." That is also the case for WebSphere Portal for System z, promised for later this year. Designed to provide a single entry point to data and applications pulled from a variety of systems, portal technology lets developers create Web sites geared to the needs of a bank's customers, for example, or a company's employees, he said.

Also making their System z debut are WebSphere Enterprise Service Bus (ESB) for System z, expected this month, and Tivoli Federated Identity Manager for z/OS, due later this year. The ESB plays a crucial role in a service-oriented architecture, routing messages from disparate sources and "massaging" data that originates in different formats to work together, said Lindsay.

Identity Manager controls access and authorization.

mainframe costs more," said Hayden. But there is a new awareness that the total cost of ownership of a mainframe can be less expensive than the costs associated with managing huge server farms, he said.

To help shops running more apps on the mainframe, the next version of DB2 for z/OS, expected later this year, adds support for "unstructured data, such as e-mail, audio and image files," said Hayden. Also new is

the ability the store XML directly, without having to transform it.

IBM this month was expected to deliver two Rational tools for z/OS, COBOL Generation Extension and COBOL Run-

time. Built on IBM's Enterprise Generation Language (EGL), the tools allow developers without COBOL expertise to write mainframe applications that can run on service-oriented architecture. ■

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MAINFRAME COSTS MORE?

Why run such applications on the mainframe? "Clearly a

Mindreef Puts Up SOAPscope Server, Sinks Coral

BY EDWARD J. CORREIA

In terms of branding, SOAPscope hit the nail on the head, but Coral was off the mark.

That's the message from Mindreef, which in mid-June is scheduled to unveil SOAPscope

Server, a rebranded and enhanced version of the collaborative SOA development platform it unveiled late last year under the name Coral.

SOAPscope Server 5.2 will run on Linux servers and sup-

port DB2, Oracle and MySQL databases. Coral worked only with Windows and SQL Server. Also at that time, the company plans to update its flagship SOAPscope Web services diagnostics tool to version 5.2.

Frank Grossman, Mindreef's president and co-founder, said, "Customers were saying, 'We've got SOAPscope, but what's Coral?'" The name change, he said, was to help customers understand what

Mindreef sees as a logical next step beyond testing to collaborative SOA development.

"[Coral] got confused in the market with other products, like registries," added Jim Murphy, Mindreef's lead architect, who noted his company's platform offers far broader capabilities.

Grossman said the new version also will enable LDAP-registered users to access SOAPscope Server objects without being a registered SOAPscope Server user. "A developer can simply send a URL to someone, and they can see and playback the problem," Grossman said.

Pricing for SOAPscope Server had not been finalized at press time, but Grossman said Mindreef will offer organizations a choice between subscription pricing, as with SOAPscope, and perpetual licensing with annual maintenance. Coral pricing was US\$499 per seat per year.

UNWITTING MIGRATION

The transition to SOAPscope Server actually began on May 9, when the company unveiled SOAPscope 5.1 with features similar to those of the server edition and tighter integration with it.

One such feature is support for multiple workspaces, a concept Mindreef introduced with Coral. Workspaces permit developers to switch between multiple work sessions. Workspaces can be saved and migrated to the SOAPscope Server.

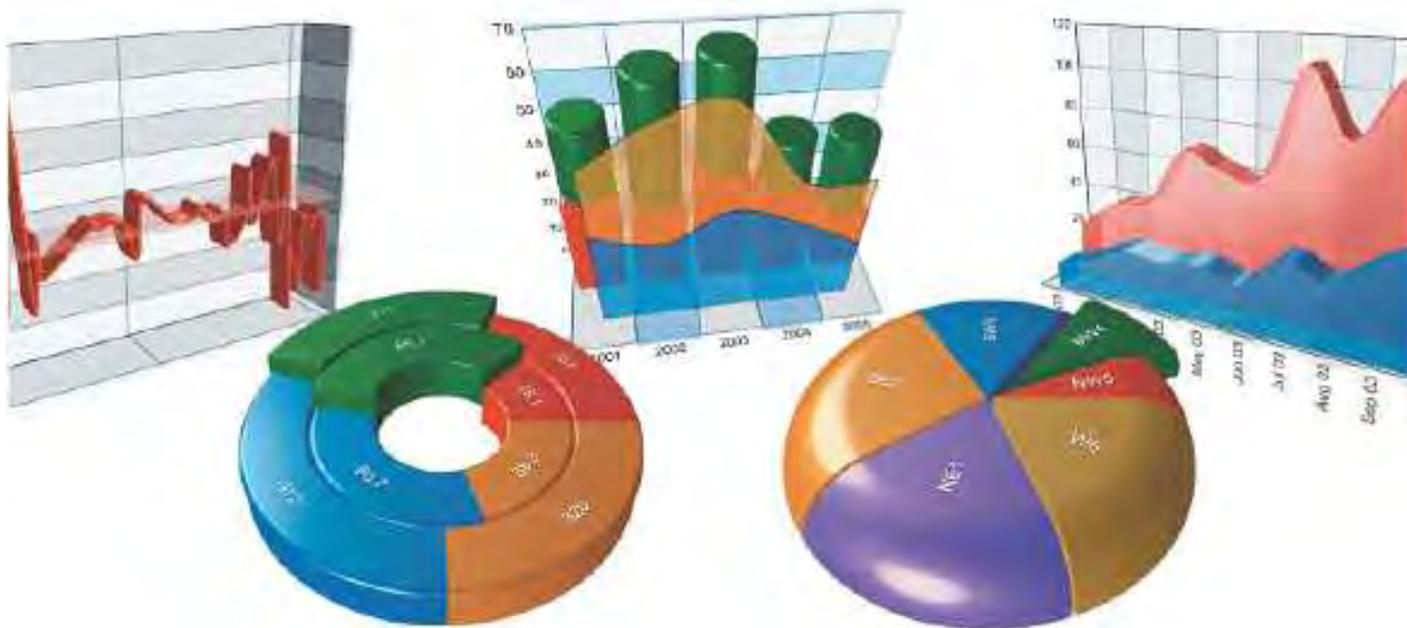
Also new is automated testing, which Grossman described as the ability to "hit a play button and have a series of messages replay themselves in an application-to-application environment. [That] can really automate the process for testers," he said.

According to Murphy, Web service Invoke/Resend, a popular SOAPscope feature, has been significantly enhanced. Developers can now edit a message in XML and view the changes in SOAPscope's Pseudocode View. "We produce forms so you can fill them in and it will produce a SOAP envelope and Pseudocode to send it out for ad hoc testing," said Murphy.

SOAPscope 5.1 pricing has increased to \$299 per user per year from \$99. The upgrade is free for current licensees. ■

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SlickEdit 11 Friendlier to Debuggers

Traces compiler errors back to source; templates speed repetitive coding

BY ALEX HANDY

Code templates, automatic code completion, revised search and replace capabilities and a Vim emulation mode are among the slew of new features built into the recently released 11th version of SlickEdit's eponymous code editor. The software is available now for US\$299 per seat.

Scott Westfall, director of software development at SlickEdit, said that his single favorite feature in SlickEdit 11 is the addition of code templates. "One of my pet peeves in programming is anything repetitive," said Westfall, who's used Java, C, C++ and Ada. "In any language I've ever written, I have a canonical class form I like all my classes to start out with. In my canonical C++ form, there's no less than 10 references to the class name in the body. We've created a template form so when you instantiate them, these are replaced." The tool also includes automatic substitution parameters for things like date, author and copyright, he said. "I think it saves three to five minutes off the front end of creating a class."

Westfall said that a new comment-wrapping feature saves busywork for comment junkies like him. After a user sets a few preferences, SlickEdit 11 can automatically format comment text to conform to line breaks. That, said Westfall, means a coder can plop the cursor into the middle of an existing comment and begin typing away without having to keep text within a preset number of characters for each line.

Westfall detailed the other changes, including a new emulator for Vim, which brings the total number of emulated editors to 13. Vim now joins Emacs and Vi, and when turned on, the emulation gives programmers the ability to use all the standard Unix editor keystrokes and commands within SlickEdit.

Also new are quick refactorings, an expanded and more powerful search and replace engine, and enhanced auto completion. Westfall said that this edition also adds an expression evaluator to help programmers keep track of regular expressions

they need for compilers and other outside frameworks.

Finally, SlickEdit 11 adds the ability to trace error codes

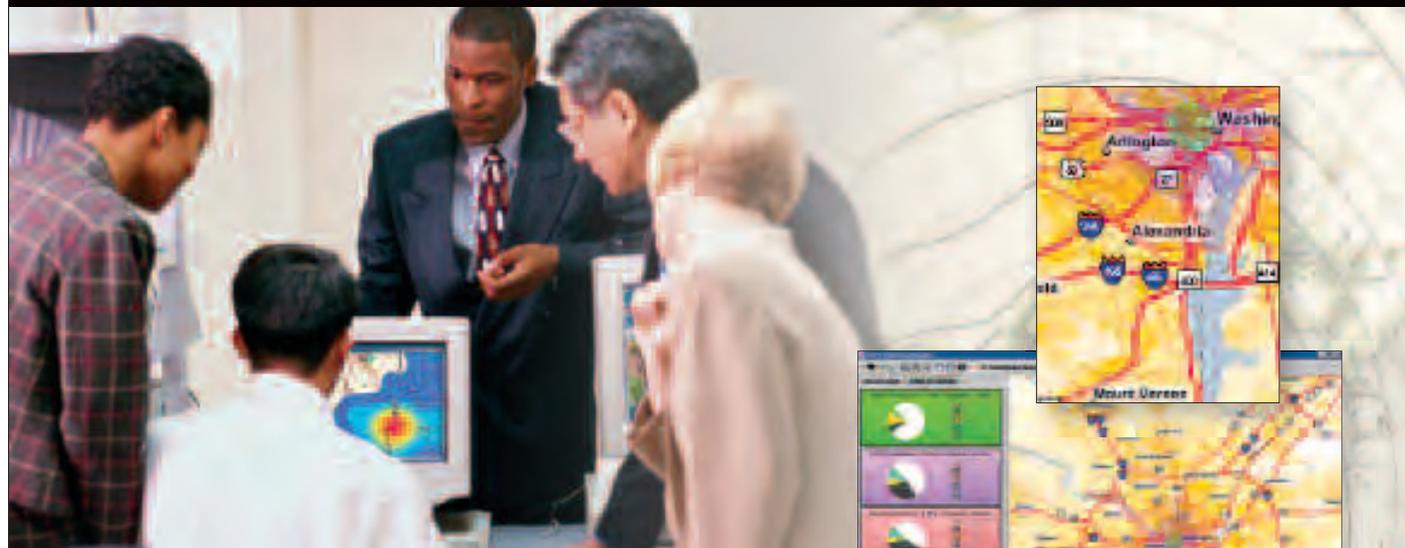
issued by compilers back to the source code responsible for the problem. "We sell ourselves as an editor, but we look and work

like an IDE. But we don't include a compiler or debugger," said Westfall of the trace-back feature, unusual for an

editor-only product.

SlickEdit 11 is available for Linux, Mac OS X, Unix and Windows. ■

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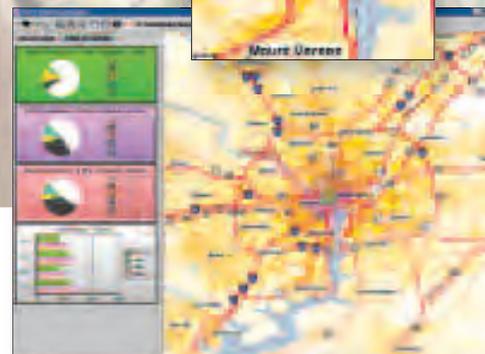
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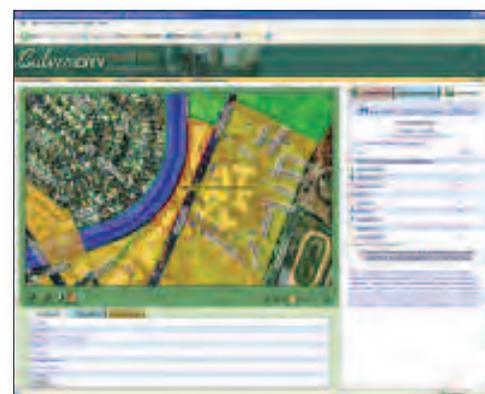
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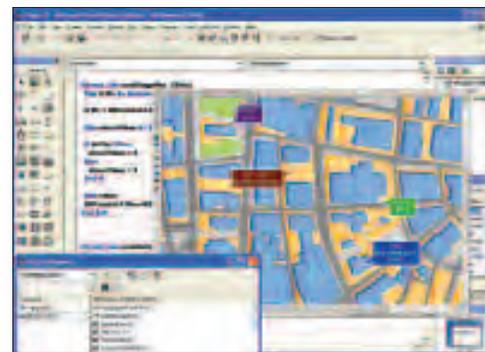
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JetBrains Sharpens Up Visual Studio Code Checker

ReSharper 2.0 offers revamped refactoring and UI

BY P.J. CONNOLLY

Code-checking tools are more important than ever before, as developers and their managers face pressures to release projects at an ever-quicken pace. Czech tool vendor JetBrains has released the latest version of its ReSharper intelligent code assistant for Microsoft Visual Studio, adding support for ASP.NET, C# 2.0 and Visual Studio 2005.

ReSharper 2.0 also includes 10 new refactoring methods—bringing the total to 27—and now empowers developers to perform unit testing inside Visual Studio. ReSharper supports both csUnit and NUnit testing frameworks, and version 2.0 adds the ability to handle MSBuild and NAnt scripts.

In addition to filling in customer checklists, JetBrains claims to have “noticeably improved the user interface” of its refactoring function, according to chief scientist and vice president of product development Valentin Kipiatkov. Other usability enhancements include context-sensitive code transformations and template sharing.



Visual Basic .NET support is coming ‘soon,’ says JetBrains’ Kipiatkov.

One specific item on JetBrains’ to-do list for future versions of ReSharper is support for Visual Basic .NET. “We’ve been working on this for some time already,” noted Kipiatkov, who expects to be able to unveil Visual Basic .NET support “soon.”

ReSharper is available now for US\$199; upgrades are free of charge to ReSharper 1.5 customers. ■



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Tom Francis
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IBM Forges Deal for Build Management

BuildForge purchase to build on current integration with Rational tools

BY JENNIFER DEJONG

IBM announced last month that it has acquired BuildForge, a privately held, Austin, Texas-based company that makes

tools to ease the process of managing software builds and releases.

The terms of the deal were not disclosed.

The acquisition builds on an existing relationship between the two companies. "We have bought a company that is purely complementary," said Roger

Oberg, vice president of marketing for IBM Rational software. BuildForge FullControl, which automates builds and release management across

multiple projects, is already integrated with ClearQuest, ClearCase and Rational Functional Tester, he said, referring to three tools included in the Rational Software Developer Platform, for configuration management, defect and change tracking, and test automation, respectively.

BuildForge's tools, which compete with offerings from Catalyst Systems, also include FullThrottle, which optimizes server usage to speed build time; and Prism, which lets developers execute test builds to see if their code works.

IBM plans to retain the packaging of the BuildForge offerings, tightening up the integrations with Rational tools over time. He did not specify what "tighter integration" would entail. IBM will sell the BuildForge tools as separate offerings, and as part of the Rational Software Development Platform, he said.

'GOOD STRATEGIC SENSE'

"This acquisition makes good strategic sense for IBM and BuildForge, and it strengthens an existing relationship," said Ovum analyst Bola Rotibi, in a comment published on the U.K. company's Web site last month. Almost two-thirds of BuildForge's customers are users of ClearCase, according to Ovum.

"Although a vital part of the overall software development and delivery process, the build and release management process has long been a traditional source of pain," said Rotibi. "By buying BuildForge, IBM strengthens its own capabilities for smoothing the process between developing software code, packaging and releasing it for production, and maintaining and managing it once deployed. This will enable IBM to provide a more complete and integrated application life-cycle management platform."

BuildForge operations will be integrated into IBM's Rational software business. Its 41 employees will remain in Austin, Texas, said Oberg. Last September, BuildForge was able to secure some US\$6 million in venture funding, which it used to flesh out its product line to address life-cycle issues. Its Prism tool, released in March, gives developers a sandbox environment in which they can execute their own builds as a sort of "preflight" test to see if their code works correctly. ■

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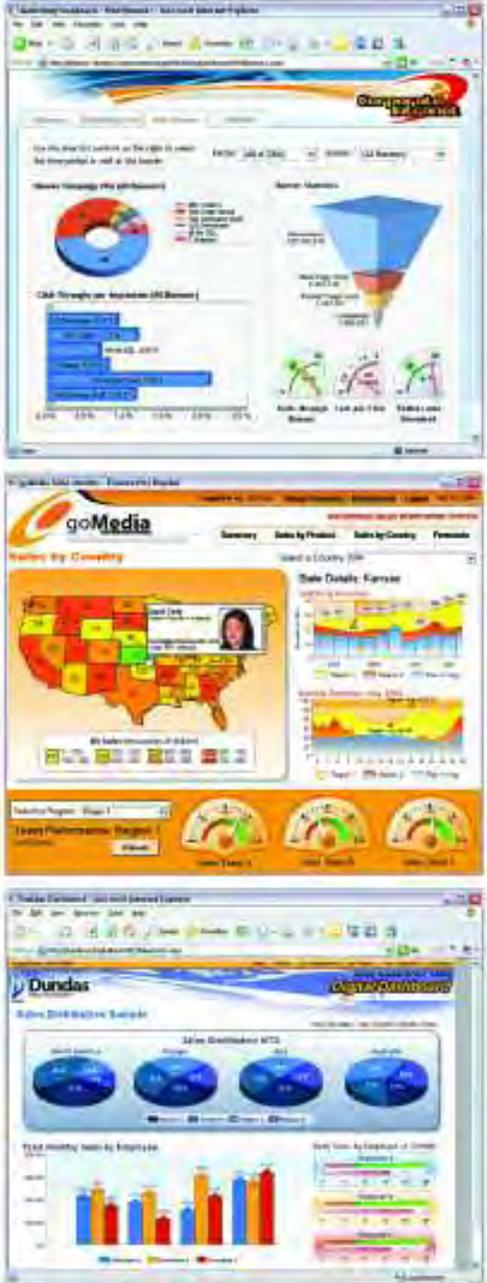


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New Engine Drives CA's AllFusion Database Designer

BY JENNIFER DEJONG

CA announced last month a new version of its modeling tool, used by developers to design the database layer of an application.

AllFusion Modeling Suite r7 lets database designers undo and redo changes even if they have made "as many as 500 in the last four hours," said Danny Sandwell, product manager for data modeling products at the Islandia, N.Y.-based company.

BEA Embraces ColdFusion; WebLogic in Beta

BY ALEX HANDY

BEA Systems has pushed its strategy forward with recent announcements that included support for applications written with Adobe's Macromedia ColdFusion.

Thanks to a distribution agreement with New Atlanta Communications, maker of the BlueDragon server-side runtime, BEA will offer BlueDragon, WebLogic Edition, giving enterprises the ability to bring their CFML applications into a WebLogic environment at a cost of around US\$3,000 per server processor.

Also announced was the public beta release of WebLogic Platform 9.2, including enhancements to its Eclipse-based Workshop IDE. Pieter Humphrey, senior product marketing manager at BEA, said that this beta release marks the beginning of a convergence of the environment and the company's other IDE, BEA Workshop Studio.

Humphrey said, "This is a big deal for us. It's been quite a while since our last release, the m7 acquisition notwithstanding." The key enhancements in the BEA Workshop Studio for WebLogic beta release are expanded support for Apache Beehive, added support for JavaServer Faces 1.1, and increased focus on SOA development.

According to Humphrey, these two IDEs are now able to function from a single installation of Eclipse. Both platforms remain distinct at present, however, and Humphrey intimated that the transition to a single overarching IDE will take a significant amount of time. ■

Also new is an improved "complete compare" feature, which lets users analyze the impact of potential database design changes, he said. "It shows you the differences as you work, making the modeler

more skillful and productive."

The enhancements are the result of the new generalized data modeling engine, underlying the ERwin Data Modeler, said Sandwell. The data modeler is the key component

of the AllFusion Suite, which also includes Process Modeler (for integrating data with business processes), Data Model Validator (which does just that) and Model Manager, a repository.

Also new to r7 is better support for Oracle 10g and 9i databases, saving developers from having to custom configure connections, and the ability to create reports in the PDF format, said Sandwell. ■

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News Briefs

COMPANIES

Qualcomm and **Microsoft** have announced a partnership to port Microsoft's Windows Mobile operating system to Qualcomm's Mobile Station Modem chip set. Qualcomm is expected to begin supporting Windows Mobile 5.0 on Convergence Platform MSM chip sets in the second half of this year.

NEW PRODUCTS

InstallAware has announced the release of **Setup Squeezer**, an application to recompress Windows Installer and InstallShield setups. Setup Squeezer allows already compressed setups to reduce in size by an additional 15 percent to 20 percent. It enables software developers to use the InstallAware package compression without having to migrate Windows Installer to the InstallAware development environment

... Oracle last month announced **Oracle Daily Business Intelligence for Compliance**, an embedded compliance management reporting system for Oracle's E-Business Suite. It provides prebuilt, compliance-focused performance indicators and reports that show business performance and risk indicators in a dashboard environment

... FeatherySoft has launched **Animated Chart 1.0**, a Flash



tool created to help Web designers add graphs and charts to Web sites. The company claims it does not require knowledge of Flash or HTML. It costs US\$49. A professional edition, which costs \$69, enables users to get real-time Web charts and graphs from dynamic data ... Dart Communications has announced **PowerSNMP for .NET**, adding SNMP version 1, 2 and 3 communications directly to .NET applications. It provides a multilevel object model that the company claims reduces the complexity of building enterprise management applications. C# and Visual Basic source code can be created from management information base (MIB) files at design time for inclusion in the project, and dynamic classes can be compiled from MIB files at runtime

... **XA-Suite 4**, an SOA design tool, has been released by XAware. The new version packages XAware applications into portable and deployable XAware archive (xar) files. Other features include copybook and SAP BizComponent support, and enhanced wizard-driven processes



... Above All Software has introduced the **Above All Knowledge Pack** for the SAP R/3 Enterprise solution release 4.7. It is a semantic service component that automatically generates business services by mining the underlying SAP system. The business services can then be assembled into composite applications. SAP has certified the Knowledge Pack.

UPGRADES

Quest Software has released **Toad for MySQL 2.0**, with advanced administration and security capabilities for managing MySQL databases. The new version also adds more reporting options, version control integration that allows users to check in and out code from within the editor, a database security manager to permit or restrict users, and the ability to record and play back keyboard commands. The full production version is available at no charge; a supported version can be purchased for US\$170 per seat ... AquaFold has released **Aqua Data Studio 4.7**, a complete database administration and query tool for IBM DB2, Microsoft SQL Server, Oracle and others. A new Visual Query builder enables users to graphically select tables, views and relationships to build queries. A new Oracle Rollback Manager allows the monitoring and maintenance of rollback segments, including current statements, transactions and execution plans. The rewritten Auto-Completion Parser supports almost any SQL syntax. Aqua Data Studio 4.7 runs on Linux, Mac OS X, Solaris and Windows ... Sun Microsystems in May upgraded its **Java Card** platform and development kit to version 2.2.2, adding stronger cryptography and support for biometric and contactless user identification and authentication. The SDK for Linux, Solaris and Windows also now supports Apache's Ant build tool and PC-SC card readers ... Microsoft in May released **SQL Server 2005 Service Pack 1**, with most enhancements for the SQL Server 2005

► continued on page 22

SPI Cranks Up Its AMP

Tied to QAInspect, AMP to track security trends

BY JENNIFER DEJONG

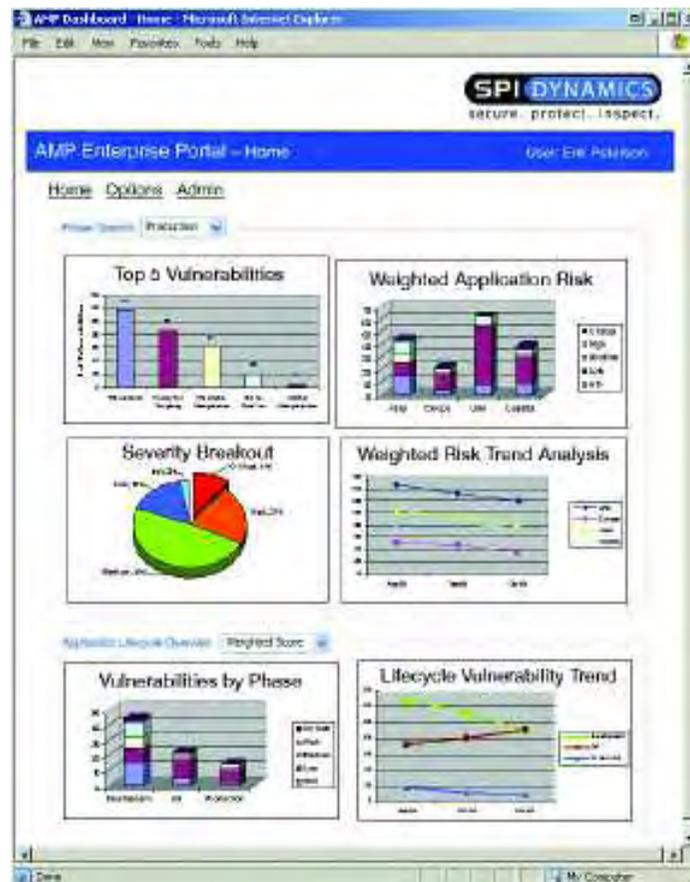
Following a route mapped out this year, SPI Dynamics continues to ramp up and integrate its application security offerings.

The Atlanta-based company was expected last month to announce AMP 2.5 and QAInspect 2.5. Unlike the previous version released earlier this year, AMP 2.5, SPI's application security management offering, is tightly integrated with QAInspect 2.5, its testing tool for finding security and other bugs, said Ryan English, a group product manager for SPI Dynamics.

The integration allows security professionals to use AMP to specify which tests the QA team should apply to which applications. "Security professionals and QA professionals don't know each other, and they don't talk to each other," he said. But the integration enables them to communicate.

Also new to AMP 2.5, which starts at US\$60,000, is a Web-based dashboard that reports app security vulnerabilities, assigning a weighted value to each. AMP designates a SQL injection as "critical," for example, but ranks a directory enumeration as "high" risk, said English.

A SQL injection, where a hacker inserts malicious code to call crucial data such as credit card numbers, represents an immediate danger. But a directory enumeration, where a hacker uncovers a list of directories in a Web application, is not as pressing, he explained. "Exploiting that list would involve extra work, so [the risk] isn't critical."



New to AMP 2.5 is a Web-based dashboard that reports app vulnerabilities companywide, based on data pulled from SPI Dynamics' WebInspect and QAInspect. Integration with DevInspect is expected next year.

Earlier, AMP was essentially a developer tool focused on scheduling Web application scans. But in January, SPI announced a plan to extend the offering to manage application security risk across the life cycle, from coding to testing and production. Also that month, it took the first step, integrating AMP with WebInspect, which audits Web applications in production, looking for potential security flaws. Integration with DevIn-

spect (SPI's tool that lets developers scan source code and binaries) is expected by early next year, said English.

QAInspect, which starts at \$6,000 per user, conducts black-box testing, simulating the behavior of hackers to determine just how attack-proof an application is. And, because it is embedded with tools from Mercury Interactive, it also carries out functional and performance tests, noted English. ■

Ikan Improves Security, Flexibility in SCM4ALL

BY P.J. CONNOLLY

Developer teams embracing application life-cycle management know there's more to the problem than just version control. Controlling the build process, maintaining a build library, and managing approval and deployment schemes are all outside the scope of traditional versioning tools. Ikan Group is taking aim at all of these concerns with the latest release of its SCM4ALL change management software.

SCM4ALL hooks into a developer's versioning tool of

choice, including CVS, Subversion and their counterparts from IBM and Microsoft. Version 4.0 now includes customizable desktops, HTTPS communication between developer desktop and server-side components, and project cloning, and adds support for BEA's WebLogic 9 and Oracle Application Server 10g.

Ikan claims that the new version also improves its support for Apache Ant, and points as well to improvements to the user interface and under-the-hood framework updates.

SCM4ALL attempts to address the growing demand for documentation at all steps of the development cycle, and the need to conform to standard business processes, whether agile or traditional development methodologies are followed. The approval functions, audit trails and reporting features are all designed with these requirements in mind.

SCM4ALL 4.0 integrates with IDEs from IBM, Microsoft and Oracle, works on Linux, Unix, Windows and z/OS platforms, and is available now. ■



_INFRASTRUCTURE LOG

_DAY 15: This project is out of control. The development team's trying to write apps supporting a service oriented architecture...but it's taking FOREVER!

_DAY 16: Gil has resorted to giving the team coffee IVs. Now they're on java while using JAVA. Oh, the irony.

_DAY 18: I've found a better way: IBM Rational. It's a modular software development platform based on Eclipse that helps the team model, assemble, deploy and manage SOA projects. The whole process is simpler, faster and all our apps are flexible and reusable. :)

_The team says it's nice to taste coffee again, but drinking it is sooo inefficient!



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Ubiquity Going Everywhere With SIP

Developer network launch, kit, JBoss alliance highlight ambitious app server

BY P.J. CONNOLLY

Hold the phones, because Ubiquity Software, known for its carrier-grade Session Initiation Protocol (SIP) application servers,

made a series of announcements between April and May that herald a new frontier for development that puts applications in the hands of mobile phone users

around the world.

The Ubiquity Developer Network (UDN) was launched in May, aimed at coordinating the efforts of the company, its

partners and developers to deliver SIP applications. The company claims this is the first community to directly connect service providers and developers creat-

ing multimedia and telephony services in both wireless and wired environments. Ubiquity managed to herd together such vendors as Borderware, HP and Nokia in an attempt to grab a piece of the exploding SIP marketplace, at the end of what had already been a busy 30 days.

In April, Ubiquity unveiled the technical underpinnings of its effort in its Appcelerator SOOF (Service Oriented Object Framework) Feature Pack, which adds functionality to Ubiquity's app servers. At the same time, the company released a complementary developer kit, including "logic blocks" of code designed to simplify the task of writing SIP applications for businesses as well as carriers.

The week after its SOOF announcement, Ubiquity and JBoss revealed that the Ubiquity app server was to be certified for the JBoss Enterprise Middleware Suite, JBoss developers were to receive access to Ubiquity's development tools, and that the companies would be driving a joint effort to encourage developers to add SIP capabilities to their applications.

These events come as the use of SIP technology is expanding rapidly. Venture Development Corp. estimates a compound annual growth rate of 36.1 percent for SIP infrastructure and hardware, with a market expected to exceed \$5.5 billion in 2007.

UNTAPPED MARKET

Today, SIP application development is mostly carrier-driven, and centers on delivering entertainment, largely in the form of games and multimedia. However, an enormous opportunity exists in the untapped potential of the enterprise market, claimed John Hart, Ubiquity's vice president in charge of product management and marketing.

Hart admitted that developing SIP applications isn't yet an issue for most enterprises. "In essence, our first target market [for UDN] is the carriers," he told SD Times. But he sees the task of "mobilizing" applications as the next challenge to wringing value out of IT: "[Businesses] invest heavily on the technology side for the corporate worker and provide them very little mobility" away from the desk.

Hart noted that "several large enterprises" are either direct or indirect users of the Ubiquity platform, attempting to "bring carrier-grade applications to the enterprise." ■

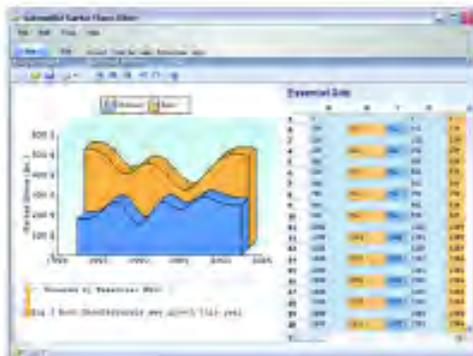
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Message From W3C: WS-Addressing's a Go

Protocol for message headers makes Web services identification more versatile

BY ALEX HANDY

The W3C last month announced it has recommended WS-Addressing, making the protocol for standardizing message headers officially ready for prime time.

WS-Addressing, designed by BEA, IBM and Microsoft last year, offers up two major new concepts to the SOAP world: endpoint references (EPR) and message information headers. EPR is used to more specifically identify the Web services being referenced in an XML message. Traditionally, these identifiers have been URLs or WSDL addresses. While it is possible to encode information within a URL, doing so is not very SOAP-like. Sending information tacked onto the end of a service's URL is how REST, a competing services standard, works. Also, sending information via URLs does not work for a non-HTTP-based service.

WS-Addressing's Message Information Headers specification, on the other hand, standardizes some datasets that can be embedded in a Web services

message. These datasets include such identifiers as a "To" field, a "From" field, and a number of other more complex fields. These other fields can

specify where a message should be sent if it is refused and methods of specifying how a message relates to others sent prior to or after reception.

Doug Davis, an architect in the emerging technologies division of IBM, wrote on IBM's Web site, "WS-Addressing's importance will grow over

time—so much so that it will be viewed as one of those specifications that should have been part of the core SOAP specification itself." ■

ComponentOne Tool Gets AJAX

BY NATALIE ITIN

ComponentOne has released Studio Enterprise 2006 version 2, a tool set for Windows, Web and mobile application development with new AJAX-enabled components.

Developers can use these components to build Web application interfaces, including WebGrid, WebReports, WebTreeView, WebTabStrip and WebTopicBar.

A new VisualEffects designer enables visual effects such as varied lighting and drop shadows to be created in WinForm and WebForm charts. New SmartDesigns are available for FlexGrid for .NET and List for .NET, allowing developers to set the components' most common properties without leaving the design surface.

Studio Enterprise consists of a set of natively compiled products for Visual Studio 2005 and .NET Framework 1.x versions. ■

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AberroTest Keeps Applications Guessing

BY ALEX HANDY

Aberro, a Maryland-based functional software testing house, announced the general availability of its first product, AberroTest, in May. The tool uses a technique called adaptive automated testing to put applications through their paces, using randomly generated paths to keep tests relevant throughout the application life cycle.

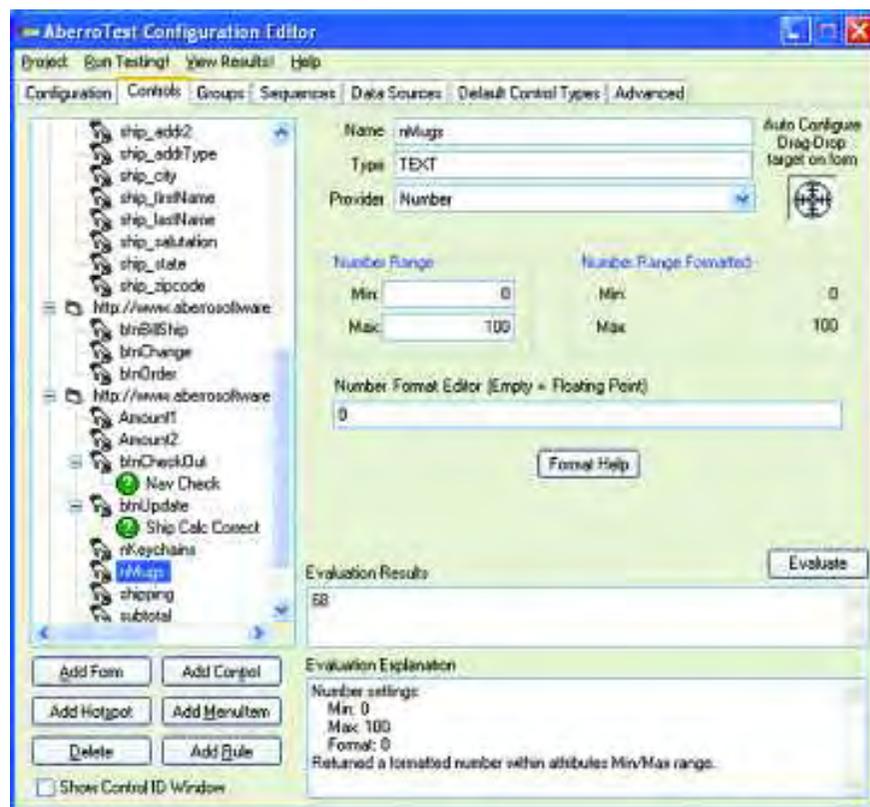
Steve Lafferty, vice president of marketing at Aberro, said that functional testing hasn't evolved much in the past 10 years, and estimates that 80 percent of all functional tests are still done manually. Aberro saw this as an opportunity, said Lafferty, and the company was formed in November of last year specifically to offer a new approach to functional tests.

AberroTest bases its tests on a few initial parameters. The first step in

designing a test is to identify and label the actual UI elements of an application. Next is to define verification rules, which describe goals for the application to reach and standards for each UI element to adhere to.

Once these items are defined, said Lafferty, AberroTest automatically generates random paths through the application's interface and attempts to fulfill these predefined goals. "A single test configuration can generate thousands upon thousands of tests, and every time you run a test it will test a new path through the application." He said with adaptive automated testing, because the test is random, "you're always testing a different path." This gives testers a much higher probability of finding errors, he claimed.

AberroTest is available now for Windows XP at US\$3,999 per seat. ■



AberroTest's configuration editor can be used to point out the interface elements of a tested application, and to set parameters for those elements to adhere to.

Image Is Everything for Pegasus

BY NATALIE ITIN

Pegasus Imaging, creator of digital image compression and editing technologies, last month released version 8 of ImagXpress, a comprehensive .NET and component object model software development kit providing both document and photo image technology.

Version 8 introduced enhanced .NET features, compatible with the most current version of .NET, according to the company.

A new thumbnail image control was also added, which supports the compa-

ny's PDFXpress for PDF file creation and viewing. It can display thumbnails of directories, multipage image files and set thumbnail display options, such as spacing and border.

Enhanced document image clean-up features offer the ability to create smaller file sizes and improve optical character recognition accuracy.

Other new features include line removal, hole punch removal, blank page detection and a "preserve dark" feature used to enhance the fine lines and detail on thumbnail images. ■

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Evidence of this is the **Smart Tag Wizard** that exposes many of the properties to select and display in real-time. There is also a **Data Wizard** which allows you to quickly connect to a data source, map specific fields to the chart and instruct the chart how to use the data. The new API was designed with the Visual Studio 2005 object model in mind to make it easier to access complex functionality. Chart FX for Visual Studio 2005 adds a **DHTML rendering engine** that uses the AJAX (Asynchronous JavaScript and XML) web development technique to produce chart images that allow full interactivity and support state in web applications. The new **Extensions Manager** standardizes the infrastructure for using the Chart FX Extensions, such as financial, statistical, maps and OLAP, among others. The **Chart FX Resource Center** provides a 'Programmer's Guide', the Chart FX API, an Internet Reference and a wealth of samples and charts (with code). *Learn more about the seamless integration and powerful features at www.softwarefx.com.*



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SOA Efforts Now Turn to Data Components

◀ continued from page 1

going to be consumed by more and different applications and people, unlinking it from the silos." It therefore needs to be portrayed in more and different

contexts with a greater rate of change.

Such is the realm of SDO, the specification for Service Data Objects developed by BEA Systems, IBM, Iona Technologies

and others. The multilanguage spec, available now for C++ and Java, applies the concept of disconnected data graphs to allow access and manipulation of data to and from relational, XML and

other disparate sources.

Applications that access such data services will be easier to create and far less fragile, said Friedman. "SDO is one way to put some standardiza-

tion around the idea [of data access]," he said.

BEA has supported SDO since the December release of Aqualogic 2.1, the latest version of its SOA integration platform.

"We see a growing need to be able to put information from [diverse sources] into a unified view," said Paul Patrick, chief architect of Aqualogic. He said that in Aqualogic, BEA had devised a federated scheme to extract, normalize and present a unified view of data, but lacked the means to post changes.

"The front end has no idea where the data came from. That's where SDO came in," he said. "It offers a standardized approach to doing an intelligent update" by keeping track of data sources and returning changes when appropriate and ignoring the rest. "SDO gave us a way to know [what] needed to change and where."

A related specification that defines a Service Component Architecture for assembling composite front-end applications is under development by many of the same companies, but has yet to reach its first release.

"The value of SCA is in how it puts services together for a common deployment model," said Eric Newcomer, CTO of Iona, which is a leading driver of SCA. He characterized SCA as a critical specification for SOA's assembly model. "Like any distributed application, the purpose of SOA is to share data and make access to data transparent. SCA tells services how to get composed into larger systems." Now at 0.9, SCA is expected to reach version 1.0 by September, Newcomer said.

The initial focus of SOA development, Newcomer continued, was on objects and applications. "And we're doing a pretty good job with that. Now we need to focus on getting data sources involved," he said. Still, Iona's Artix 4 ESB platform does not yet support data access methods described in the SDO spec. "SQL databases are what our customers need to access most," he said.

SCA will be incorporated in the Eclipse SOA Tools Platform (STP) project that Iona proposed last September. "Eclipse is where [SCA and SDO] come together," said Newcomer. "SCA relies on SOA metadata, and we see those coming together under one umbrella." The next major release of STP is set for July or August. ■



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GPL's Patent Rule Is Pending

◀ continued from page 1

initiating the lawsuit will lose all rights to use the GPL code in question.

Eben Moglen, president and executive director of the Software Freedom Law Center, said that the Free Software Foundation does not find patent retaliation clauses to be effective, and has therefore included only one clause for retaliation in the GPL draft. "Now that everyone knows that software patents are crappy," said Moglen, "the FSF has not lost any of its enthusiasm" for its fight against patents. "It's just that the foundation believes that patent retaliation clauses in [other open-source] licenses lead people to believe they've done more about the problem than they [actually] have."

Diane Peters, who is discussing the changes to the GPL with large corporations in her capacity as general counsel for the Open Source Development Labs (OSDL), said that she expects the Free Software Foundation to address during the initial comment period many of the concerns raised by these companies with sizable patent portfolios.

"If I sue someone with a patent based on GPL v3 software, I have to choose between suing or running that GPL v3 software. It's the first time FSF has ever reached in and controlled private behavior," said Peters. "Every other provision in GPL v2 is triggered by distribution."

The confusion here stems from the ambiguity of where in the patented software GPL code must exist in order to invalidate a lawsuit. If the entity enforcing the patent used GCC during its development process, Peters worries that this could be enough to negate the suit.

It is possible for a company to have GPL 3 code in its software stack without knowing about it, said Peters. "Then, if they choose to sue someone for infringement, the defendant can then go on a hunt for any GPL v3 code used in the company, and if they find it, they can say, 'Aha, you can't sue me.' This may be changed. My hope is they change it to trigger by distribution, not by just privately running code."

The next iteration should be arriving sometime around the beginning of July, and is expected to remove a good deal of the ambiguity and uncertainty from the draft document.

Moglen went on to say that the GPL 3 now includes the ability to integrate code released under other licenses, and as such, outside patent retaliation clauses could find

their way into codebases that merge both GPL 3 code and, for example, the Apache Software License. The trick here is figuring out which license clauses will remain dominant

after a merger, something which Moglen and Peters expect will be clarified in the next draft release.

Moglen also expects the FSF to rework the way the GPL 3 deals with patent license holders offering protections to downstream users of potentially patent-infringing GPL code. ■

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Mike Milinkovich is the executive director of the Eclipse Foundation. In the past, he has held key management positions with Oracle, WebGain, The Object People and Object Technology International Inc. (which subsequently became a wholly owned subsidiary of IBM), assuming responsibility for development, product management, marketing, strategic planning, finance and business development.

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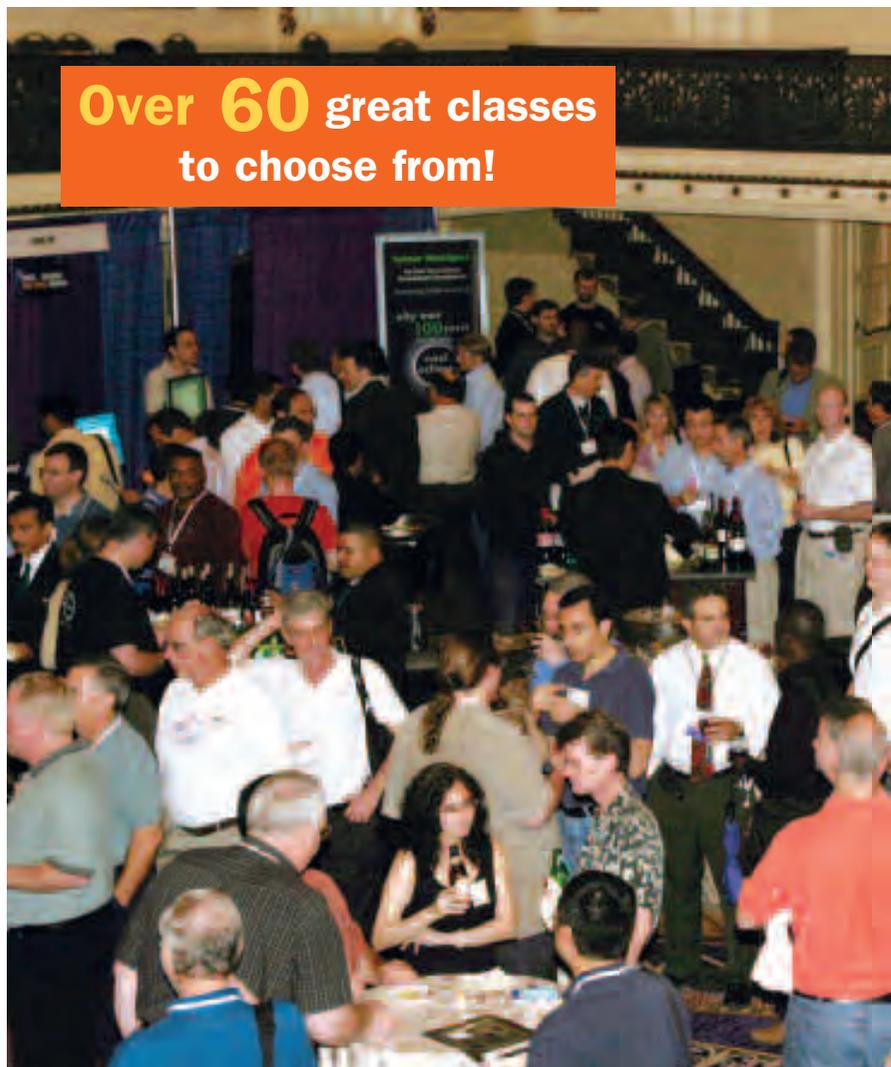
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Borland Segues Into Testing With SilkTest

BY ALEX HANDY

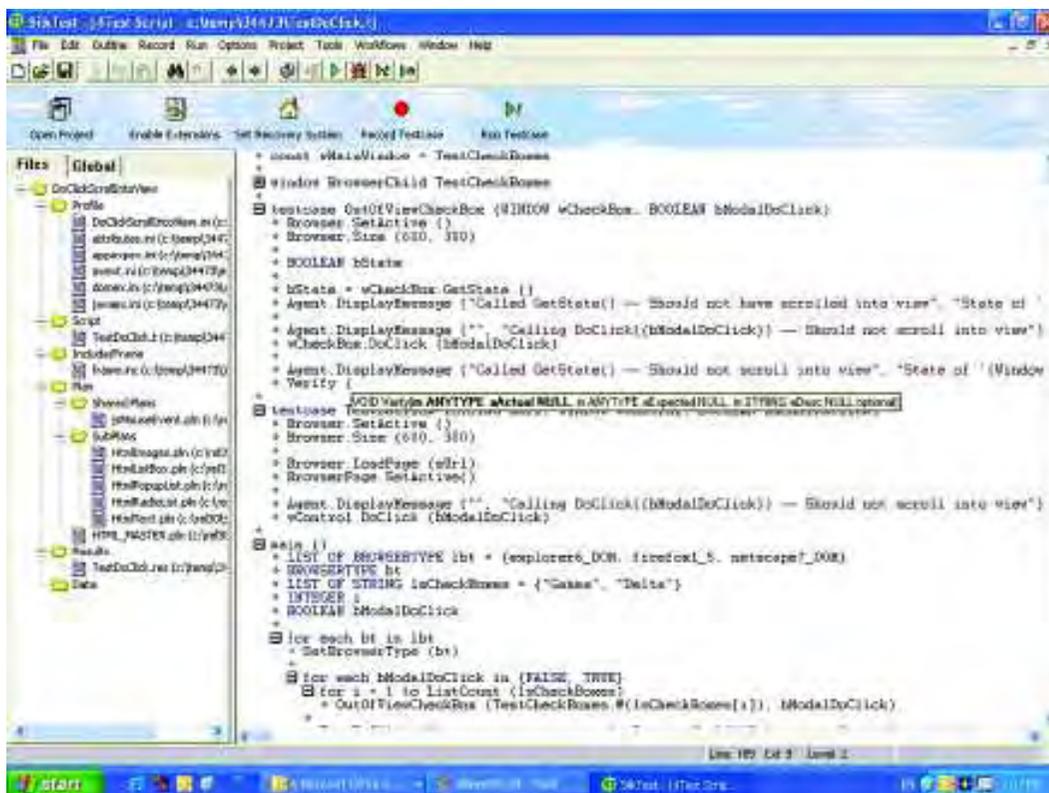
Now that Segue is a part of Borland Software, SilkTest 8.0 has been released under the Borland brand name. This newest iteration of the functional testing tool was nearly complete at the time of the acquisition in late April, said Brad Johnson, a former Segue officer who now is Borland's director of product marketing for life-cycle quality management. But with the addition of support for Eclipse-based applications, SilkTest 8.0 falls in line with Borland's Eclipse-centric plans for the future.

SilkTest 8.0 can now test apps built on Eclipse 3.0 and 3.1. In addition, this version offers support for both Mozilla Firefox 1.5

and Internet Explorer 7, meaning that SilkTest can now put Web apps through their paces.

Johnson said that his company is working hard to integrate Segue's tools with the rest of the Borland product line. "Some products from Borland and Segue are integrated today due to the long-standing relationship between the two companies. Integrations have been built to share requirements, test cases, defects and metrics between Segue's quality technologies and some of Borland's ALM technologies, including CaliberRM," said Johnson.

Borland SilkTest 8.0 is available now for US\$6,500 per user. ■



SilkTest's new home inside Eclipse gives developers the chance to build their functional tests in the same environment in which they build their software.

News Briefs

MORE UPGRADES

◀ continued from page 12

Express Edition. SP1 addresses bugs in SQL Server 2005's analysis, integration and reporting services, and shortcomings in the performance of the database engine. SP1 also includes production-grade database mirroring, along with other fixes expected in a first collection of patches. SQL Server 2005 SP1 is available now for download at www.microsoft.com/sql/ctp_sp1.msp. . . . **TechExcel** in early June will add Web-based communication features to **DevTrack 6.1**, the latest version of its defect tracking system. The company also will add the ability to track bug fixes that are addressed across multiple software releases. Also in June, TechExcel plans to release **DevPlan**, a new tool that will add project planning capabilities to bug tracking databases. . . . **Bram Moolenaar**, the primary force behind **Vim**, the GUI-based version of the classic Unix text editor Vi, has announced that version 7 is complete. This new version features on-the-fly spell-checking, a vastly enhanced pantheon of translations for the editor's documentation and internal grep capabilities. The original Vi was written in 1976 by Bill Joy, one of the founders of Sun Microsystems. Vim is an open-source project, and is available for free from vim.org.

PEOPLE

Jacada has appointed **Paul O'Callaghan** as president of its North American, Latin American and European operations. Prior to joining Jacada, O'Callaghan served as SVP of global sales and services at Optio Software. He also held senior sales and marketing positions at Cisco Systems. . . . **MetaMatrix** has announced the appointment of **James Dougherty** as CEO and president. Previously, Dougherty was the head of global markets and operations for technology industry research and consulting firm Gartner.

STANDARDS

The OASIS international standards consortium has announced that its members have approved **Business-Centric Methodology version 1.0** as an OASIS standard. BCM is a set of layered methods for acquiring interoperable e-business information within communities. It serves as a map for organizations, based on open standards, to identify and exploit business success factors in a technology-neutral manner. ■

Reorg, Layoffs and Losses

◀ continued from page 1

Taylor, formerly head of worldwide sales for Vitria, a Sunnyvale, Calif., maker of business process management tools, has been appointed vice president of Borland for Europe, Middle East and Africa.

JOB CUTS OUTSIDE U.S.

The company expects to eliminate approximately 300 jobs, primarily outside the United States. Borland has operations in 29 countries, noted Hulme. Borland will continue to support customers in markets outside of that region, directly or through partners, he said.

To support its ALM business, Borland has combined its sales and professional services organization. "They have been moving together in an ad hoc way," Hulme said. "Consulting people have become part of the

sales process." To sell ALM tools and service offerings, "you have to stand back and say, 'What does the overall organization need? How do we put a plan in place?'" he said.

The reorganization also folds customer support into research and development. R&D and customer support professionals play very different roles, said Hulme. But bringing the two operations together will enable Borland to enhance future offerings based on requests that arise from the support process. "We want to ensure customer support information gets back to R&D," he said.

The restructuring includes the creation of a new Business Operations function, to help Borland take a global view of its internal systems and processes to gain efficiencies, said Hulme.

Borland was expected to

announce financial results for its first quarter ended March 31, 2006, on May 10. But on that date, the company said it had invoked the permitted five-day extension and announced it had completed its acquisition of Segue (see related story above).

The company said it expects revenues of approximately US\$69 million for the first quarter and a smaller net loss than that reported in the previous quarter. Borland reported a loss of \$9.6 million for the fourth quarter of 2005.

Asked what she thought of Borland's restructuring plans, Forrester analyst Carey Schwaber said: "It's a lot of small changes. My main reaction is that I hope they're going to break out the IDE business's financials, since they've always refused to share any real data on ALM versus IDE." ■

SGI'S OUT OF OXYGEN

Famous for high-end Unix workstations such as the Indigo, Oxygen and the MIPS-based O2 (shown here for recycling), Silicon Graphics last month declared Chapter 11 bankruptcy. The former high flier shed its management team in January; Dennis McKenna, the new chairman and CEO, has unveiled plans to streamline costs.



SD Times Photo: Alex Handy

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Devicescape Cuts the Ties That Bind

Future devices will connect directly to variety of services, company says

BY EDWARD J. CORREIA

A device in every hand and a service for every device. That variation of Herbert Hoover's 1928 campaign slogan might be

fitting for Devicescape Software, which in May unveiled its vision of a landscape filled with wireless devices connecting effortlessly to a variety of ser-

vices free from the tethers of PC synchronization.

The company, founded in 2001 as Instant802 Networks, took a step toward that vision

on May 1 when it released Easy Access, a solution it claims can initiate instantaneous, ad hoc WiFi networks between devices at the touch of a button.

The software builds on Devicescape's Secure Wireless Client and Wireless Infrastructure Platform, products it markets mainly to OEMs building wireless client devices, routers and access points.

But according to Glenn Flinchbaugh, vice president of marketing and products, Easy Access also has numerous applications in the enterprise. "One of the challenges for enterprise developers is use of certificate-based authentication protocols. [While] it's not a big deal to provision those into a laptop, which typically connect with a wire first, provisioning them to a handheld device is difficult," he said, because many such devices have no means to connect physically while they roam. "Easy Access could enable the delivery of a certificate wirelessly for setting up a device on somebody's network."

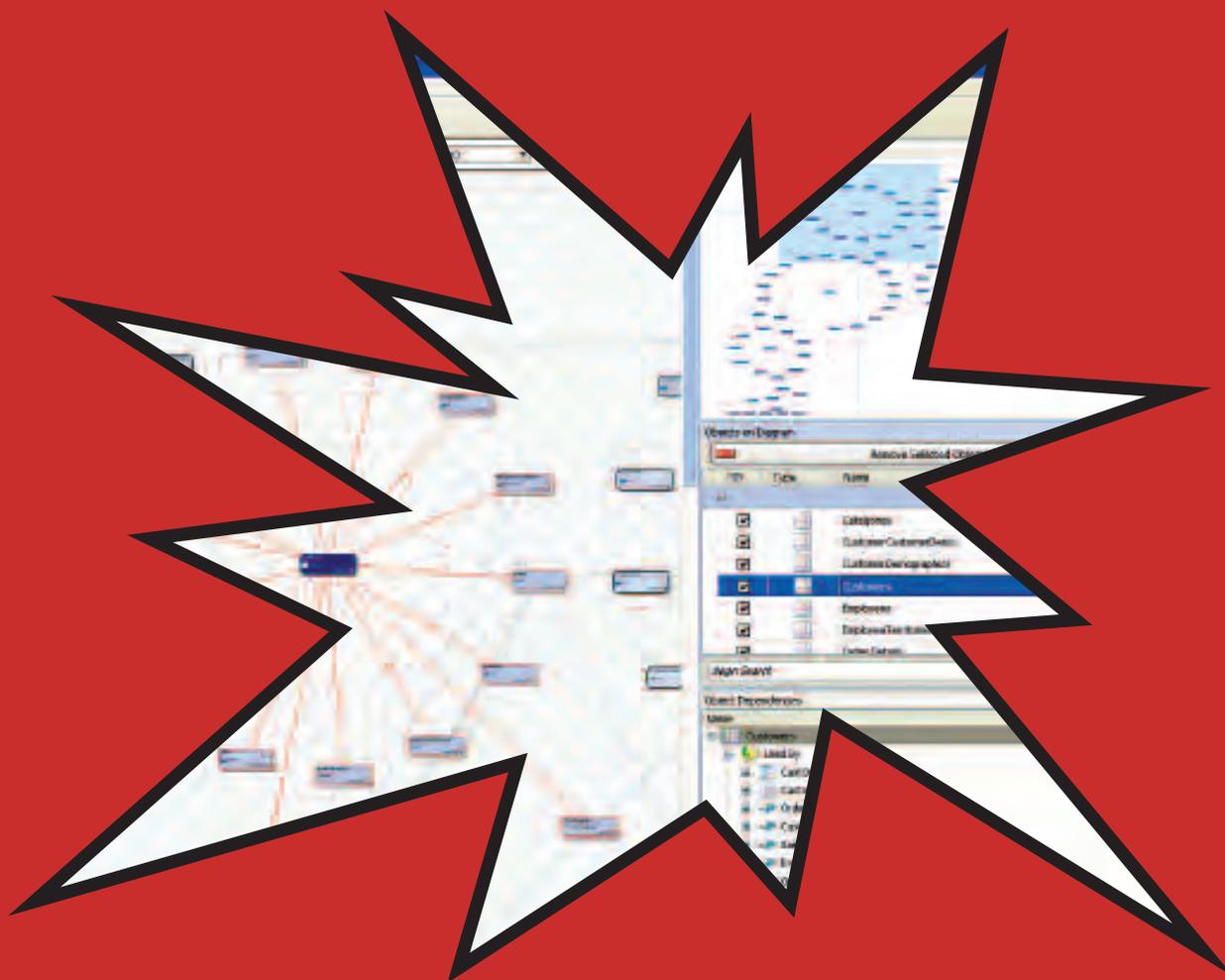
Flinchbaugh said the software is an implementation of Simple Config, a specification being developed by the WiFi Alliance, a multivendor consortium founded in 1999 to promote high-speed wireless networking. Apple, Microsoft, Nokia, Phillips, TI and Sony are among its approximately 250 members.

"In the past, it has been hard for people to set up and use WiFi networking devices," Flinchbaugh said. "[WiFi] won't be successful if it's not brain-dead simple to get on the network and get access to a service." Microsoft will reportedly support the protocol in Vista as Windows Connect Now 2.0.

Beyond the obvious consumer applications, Flinchbaugh said the benefits of ubiquitous, high-speed connectivity can be realized by enterprise developers building applications for package delivery tracking, insurance claim handling and photojournalist reporting.

To help grease the wheels of adoption, Devicescape has contributed its Advanced Datapath Driver—a high-performance native 802.11 media access control driver that it developed for Linux—for adoption into the Linux 2.6 kernel.

"Developers have had to port WiFi drivers from Windows, and that's been a hindrance," Flinchbaugh said. ■



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SCO's Eclipse-Based EdgeBuilder SDK Goes to Beta

← continued from page 1

handles client and back-end server connections; software deployment and management; and application execution and data processing for mobile clients.

"Our approach puts the power where it needs to be, which is not necessarily at the mobile end point," said Andy Nagle, SCO's product manager for mobile services, referring to the EdgeClick Processor's execution engine. "We feel it's better to break [applications] into pieces so the device doesn't have to do all the work and talk to the [back-end] connector," he said.

On the client side, a presentation-layer agent handles authentication, caches and displays data coming from the EdgeClick Processor, and can execute business processes and check for back-end data updates. The agent communicates with the EdgeClick Processor by sending CGI-based name/value pairs over HTTPS, and receiving XML or some native format in return.

Supported languages include Handheld Basic (HB++) for Palm OS, C# for Windows Mobile and J2ME. The tool also supports the SuperWaba runtime-based language. The solution will include sample agent implementations for SCO Unix systems in C, C++, Java, Perl and PHP.

Currently the client agent handles only constant connections; data is saved temporarily to the device but is lost with shutdown. A store-and-forward component to handle intermittent connections is under development and will be included, Nagle said.

Nagle said the EdgeBuilder SDK will include a full-scale sample implementation of a mobile application with source code that developers can view and modify. "We'll give you an end-to-end application with all four components to show developers how to build their own." He said the sample will be composed of a MIDP-based client agent, a Java app for the EdgeClick Processor, a database connector agent, probably using JDBC, and an administration page.

Also in June, the company is set to begin beta testing HipCheck, a utility for Windows Mobile that Cutler said permits

developers and administrators to control administrative functions on systems running OpenServer 6, UnixWare 7.1.4 and Windows XP Professional.

"They can perform all func-

tions, including user management, set and get alerts, shut down and restart, everything from a Windows Mobile device or Windows XP workstation," he said, provided they are

equipped with the .NET Framework. General availability is set for July; pricing was not disclosed.

The SCO executives said that SCO vs. IBM is bogged

down by pretrial motions and expert-witness testimony. If the case goes to trial as scheduled in February 2007, it will have been before the courts for four years. ■

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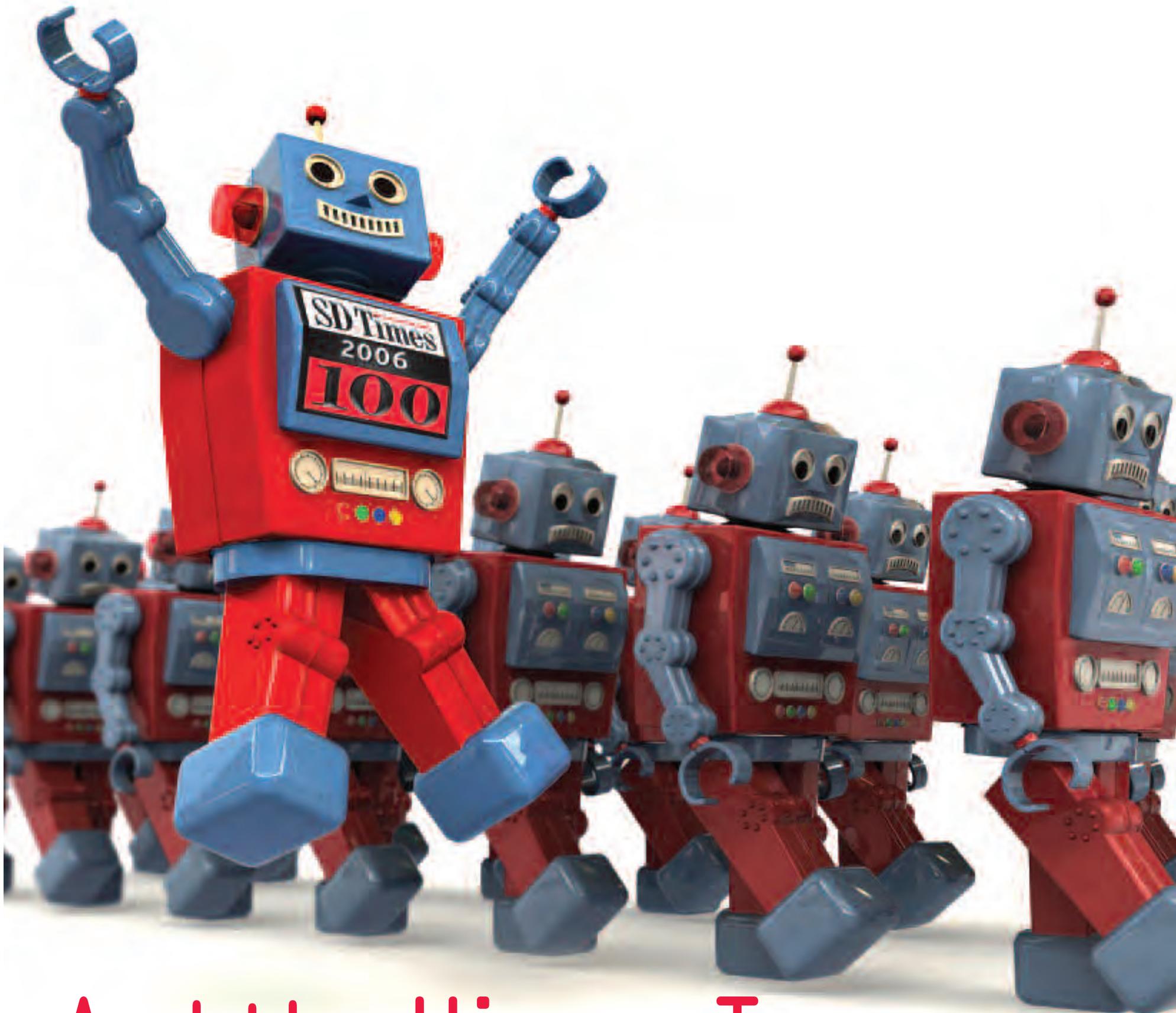


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And the Winner Is...

It's time once again for the SD Times 100, in which we attempt to recognize the organizations or individuals that have demonstrated leadership in their markets, either through the strength of their products or the technological innovation that drives our industry forward.

This year, though, we're doing things a little differently. Instead of having 10 categories with 10 winners each, we've expanded the number of categories to 15, with no set number of winners in each. We believe that this better reflects what's happening in the industry, as organizations rush to follow the hot new thing while leaving the more mature markets to a smaller group of

players. For instance, this year, we have added categories for software security, business process management and build management, which emerged in 2005 as areas that development managers needed to pay closer attention to as enterprises worked overtime to get their IT departments in line with their business goals.

Meanwhile, the old Integration & Middleware category became SOA & Integration, and Collaboration & SCM became Software Configuration Management & Change Management, to align better with the work that development organizations—and the companies that serve them, such as software vendors, consultants and, yes, even industry analysts—are doing.

The addition of some categories and the renaming of others has also resulted in a whole slew of newcomers to the SD Times 100, such as AJAX tools vendor ClearNova and Catalyst Systems in build management. Of course, no honor roll of the software development world would be complete without heavyweights IBM, Microsoft and Oracle, which appear on numerous lists. Their sheer size—of market share, of R&D spending—make them the companies to look to year in and year out.

So then, here, in the estimation of our editors, are the trendsetters, newsmakers and noisemakers of 2005.

INFLUENCERS

**Microsoft:**

Love it or hate it—and SD Times readers do both—there's no denying that Microsoft sets much of the dev world's agenda. From new SQL Server and Team System tools to the soap opera of Windows Vista, everyone hangs on Microsoft's latest news, trials and tribulations.

Apache Foundation:

Essential open-source projects, from Ant to Tomcat, live and breathe at Apache; newcomers Beehive and Geronimo have gained significant attention from enterprise developers and software companies alike.

Eclipse Foundation:

With the world at its feet, the foundation has conquered all that is not .NET. Plug-ins and projects pushed this programmers' paradise toward perfection.

Free Software Foundation:

For years the GPL lay dormant yet virulent. Proposed revisions to the free-as-in-speech license may turn virus into patent carnivore.

IBM:

Big Blue spins up the dev tools with new Atlantic software development platform, and spins out open-source projects to the broad community.

Jesse James Garrett:

AJAX essay takes world by storm. While interactive Web pages aren't new, Garrett defines a standards-based approach that reinvents the Web.

Oracle:

Who's buying whom? Larry Ellison's big ego, deep pockets and dogged persistence show the Oracle how to grow through acquisition of competitors. Everyone asks, "Who's next?"

RSS:

Publish/subscribe for the Web means more than streaming news feeds and blogs; it's the engine for fueling programmatic app-to-app communications. Now, which standard to use?

Salesforce.com:

It's not just CRM anymore. When he's not offending the Dalai Lama, Marc Benioff is the giant poster boy for software as a service, now with app servers too!

State of Massachusetts:

Boston government throws Microsoft's proprietary document schemas into the harbor in favor of OpenDocument and PDFs. No taxation without standardization!

Sun:

Embattled on all fronts, the company fights back by giving everything away. From Solaris to NetBeans to its SPARC designs, Sun places all its eggs into a services basket.

DATABASES

**Microsoft:**

Everyone loves SQL Server 2005, which Sybase did an excellent job of developing. You don't have to lead to offer the best.

IBM:

Still pushing petabytes after all these years, DB2 continues to hold sway. And IBM's free edition doesn't hurt adoption numbers any.

MySQL:

A major force in the open-source database world, despite seeing its transaction engine gobbled up by Oracle.

Oracle:

2004's thought leader continues to better its line; took a leading role with Eclipse efforts of Java persistence.

Sleepycat:

Kept its ubiquitous embeddable database purring with performance improvements and eked out the year on an up note before being skinned by Oracle.

APPLICATION SERVERS

**JBoss:**

Always at the front end of emerging technologies, JBoss continues to be the one to watch for its app server innovations. And such a bargain!

Apache Foundation:

Geronimo 1.0 wowed the crowd with its stability, innovative new features and solid infrastructure.

BEA:

As the WebLogic platform continues to expand, competitors haven't stopped taking notice.

IBM:

Its app server platform keeps finding itself in increasingly narrow roles. Will there some day be a WebSphere Kitchen Appliance Edition?

Microsoft:

Its infrastructure has become so widespread, the company in some way touches everyone and everything.

Sun:

Continuing Java efforts have never failed to grow in importance. And the Glassfish project doesn't hurt.

SOFTWARE CONFIGURATION MANAGEMENT & CHANGE MANAGEMENT

**Subversion:**

With a growing feature list, this open-source version control system has turned the industry upside down and is challenging proprietary solutions with its simplicity and ease of use.

Atlassian:

With 3,100 user organizations and a bunch of industry awards in its pocket, this company from Down Under is hopping.

CollabNet:

The introduction of a maturity model for ALM gives organizations a road map for arriving at distributed development nirvana.

IBM Rational:

The granddaddy of 'em all, IBM Rational's ClearCase has had a dizzying run with its DSEE-based version control system created in the 1980s.

MKS:

If you build it, they will come. That's what MKS believed when it built, rather than bought, the pieces of its very successful ALM suite.

Perforce:

As its competitors look upstream to broader markets, Perforce stays the course and continues to improve performance. It does one thing, but really well.

Seapine:

Slow and steady, Seapine keeps enhancing its suite for testing, defect tracking and change management; many other vendors support the package.

Serena:

Opened up the SAFE to give the Eclipse Foundation the basis of its Application Lifecycle Framework project, an effort to standardize ALM processes.

BUILD MANAGEMENT

**Catalyst Systems:**

Openmake has opened up. It's not just a build management system; it's become the centerpiece of the software development life cycle, at least in Catalyst's view. Thanks to Openmake, build management has moved beyond makefile scripting to full-fledged workflow that takes charge of just about everything. It's a real catalyst for change.

Apache Foundation:

Like its insect namesake, Ant is small but can carry a big load. Fast, stable, easy to use, Apache Ant has redefined software builds for Java and beyond.

BuildForge:

It can rebuild it. It has the technology. Emphasis on end-to-end control puts BuildForge in full control of all releases, past, present and future.

Electric Cloud:

Building overnight? Try building over lunch. EC's parallel approach and visualization tools accelerate dev and QA teams, even while they masticate.

TEST, QA & PERFORMANCE MANAGEMENT

**Mercury:**

Sure, the company's "business technology optimization" is a meaningless marketing slogan, but Mercury continues to lead in big-enterprise software testing and performance monitoring with top-notch tools and services. Pity that the president, CFO and corporate counsel had to resign in a nasty 2005 stock scandal; who was monitoring Mercury?

Agitar:

Shaken, not stirred. Advances in Agitator help testers find bugs that other tools can't identify. Agitar stress tests induce little stress in developers.

Compuware:

Compuware is everywhere—integrating with .NET, optimizing its OptimalJ for Java, new software, new tools, even new CARS. It's hard to find a broader QA provider.

Enerjy:

Teamstudio spinoff focuses on integrity—software integrity. That means not just testing, but also enforcing best practices in coding.

IBM Rational:

There's nothing Rational can't test, and there's no one in the world better at building the tools that aren't there yet.

ITKO:

Who knows Java? LISA knows Java. She knows where your J2EE code's good, where it's bad, and where it really sucks. And she'll make it suck less.

Klocwork:

It's not alone in pushing prevention as the QA cure, but a strong emphasis on security from Web to IDE makes Klocwork's defect-killing approach uniquely valuable.

NUnit Development Team:

Inspired by JUnit, the makers of NUnit 2 bring the Windows world powerful tooling for unit testing that even Microsoft's Visual Studio Team System can't match.

Seapine:

The latest version of SurroundSCM has the app life cycle surrounded, while the QA wizard and test tracking system keep the pistons popping.

Segue:

A smooth body, and no aftertaste. Segue's software delivers a process for building solid software from collaboration to test automation to performance management.

BUSINESS PROCESS MANAGEMENT



TIBCO:

Continued to hold its ground as the leader of BPM-focused providers. Strengthened its position by beefing up its integration suite.

JBoss:

The Graph Oriented Programming in JBoss' jBPM is considered similar to that used in Microsoft's Windows Workflow Foundation, introduced later. Where Microsoft follows...

Microsoft:

Did some stirring up of its own in the BPM industry with the addition of Workflow Foundation to Windows Vista.

OMG:

In June, combined its BPM efforts with those of the Business Process Management Initiative (BPML.org) to take the lead for all major vendors in the segment.

Oracle:

Gained ground in BPM segment by leveraging its ubiquitous database and PeopleSoft solutions. For proof, just Google Oracle and BPM.

TOOLS & ENVIRONMENTS



Eclipse Foundation:

This was a no-brainer, thanks to the exponential growth of Eclipse in 2005. The movers and shakers are moving onto Eclipse, and shaking up the world with new tooling, add-ons and uses for the Swiss army knife of IDEs. And the Eclipse Foundation itself remains at the forefront of the community it helped to create. Even Martians know what Eclipse is!

Altova:

XML becomes more important every day. And nothing makes it easier to tinker with your XML code than the venerable XML Spy.

Borland:

Despite having a scattered year, Borland's Core vision of software delivery kept this company at the top of the heap. Choosing Eclipse was clearly for the best.

Koders:

Finding code on the Web wasn't so easy until Koders.com came along. Last year it was the only game in town. Next year? We'll see.

Macrovision:

From installers to DRM to copy protection, Macrovision offers all the tools that make software work on those computers not inside your corporate offices—and even the ones that are.

Microsoft:

Developers love MSDN. Developers love Visual Studio. So why do so many developers hate Microsoft? It's certainly not because of their tools!

Sun:

Silicon Valley's shining star has always pushed the bounds of development outward. Last year, their tools just got better and those bounds got wider.

VA Software:

How many times have you hit Sourceforge.net today? Without this open-source repository, many projects would have crumbled long ago.

VMware:

Virtualization may not be in the dictionary, but it's certainly in the test labs. VMware's many offerings bring the power of recursive operating systems to all sorts of hardware.

COMPONENTS, LIBRARIES & FRAMEWORKS



Data Dynamics:

Serves Windows ActiveX and .NET developers with a wide range of tools, from UI components to active report generation systems. The past year saw updates of graphics and reporting tools, showing that when coders need reusable software, this company

helps business fly first-class.

ComponentOne:

Break-out year advances Windows, Web and mobile development tool sets, as well as help software. If you're looking for one source for components, the company's name says it all.

Dundas:

Who knew there were so many types of user interface charts, gauges and graphs? Dundas' developers know, and they work hard so you don't have to.

Infragistics:

Dev teams see the advantage with NetAdvantage, hitting the suite spot for ASP.NET, Windows Forms and Tablet PC. New for 2005: Infragistics expands into testing, too.

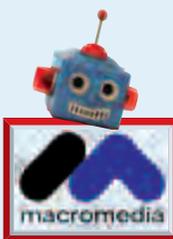
Software FX:

Focusing on both Java and Windows, Software FX shows enterprise developers the numbers through charts, graphs, gauges—plus financial, statistical, mapping and OLAP reports.

Syncfusion:

Essential tools reach into Visual Studio with calculation, data grid, HTML UI, charts, graphics, PDF and more. If it's essential to show the data, Syncfusion makes it happen.

RICH CLIENT



Macromedia:

In 2005, Flash made the jump to being the foundation of innovative enterprise applications. Google Video and YouTube take advantage of Flash's ability to bridge the video gaps between platforms, and Adobe doesn't look to be hurting Macromedia's flagship at all.

ClearNova:

A graphical tool for building AJAX apps means moving a business from Web 2.0 buzzwords to functional JavaScript in days rather than weeks.

Eclipse Foundation:

With a gaggle of new rich client tools coming to the open-source IDE, it's become the easiest, fastest road to stand-alone rich client construction.

Exadel:

Building corporate sites with AJAX is a must for 2006. That's why Exadel began offering its AJAX-savvy site building tools in 2005.

Google:

Google Maps was the coolest tool of 2005. And allowing everyone to spill data all over them via a sweet API didn't hurt either.

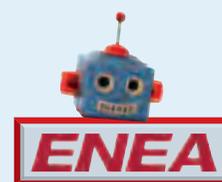
Laszlo Systems:

Flash? AJAX? Why not both? Laszlo offers the tools for interface construction that make the Web look like Star Trek computer screens.

Ruby on Rails:

The most original Web application framework yet. It's touched off language holy wars reminiscent of those around Perl, but Ruby has manners.

EMBEDDED & MOBILE



Enea:

Johan Wall has called for unity among embedded tools makers. In a market where most still build proprietary devices, Wall has shown himself to have chutzpah. And with Enea's ubiquitous embedded database, it's a sure bet that the rest of the world will have to listen up and take notice of Wall's call.

Green Hills:

With a diverse array of tools and real-time operating systems for embedded devices, Green Hills makes platforms that can take a licking and keep on processing.

RIM:

Despite losing much of last year to ludicrous gavel wagging, RIM still managed to offer terrific tools for building applications that make its fabled Blackberry the most addictive mobile device around.

Sun:

J2ME continues to be the dominant platform for mobile developers. With more than 1 billion Java-enabled chips out there, it's no wonder J2ME is No. 1.

Wind River:

The folks on Alameda Island are big on device specific optimization. That means less chip design, more software streamlining. And that makes everything easier.

SOA & INTEGRATION



BEA:

Gained immediate cachet with the release of AquaLogic SOA platform, which blended a mixture of acquired, developed and repackaged ingredients into a potent enterprise potable. Speedy application servers ensure that digital beverages will always arrive steaming hot.

IBM:

WebSphere continues to be the all-knowing, all-doing orb of integration as the company bestowed Web services capabilities to MQ, Business Integration Modeler and Server Express products.

Microsoft:

Rode its project Whitehorse into the integration arena, instantly giving Visual Studio 2005 developers an easy connection to SOA infrastructure.

Mindreef:

Grossman and Moskun put heads together to create Coral, an SOA environment that allows employees to collaborate in the integration life cycle.

Oracle:

While announcements surrounding Fusion may have been mostly smoke and mirrors, the attention they drew reflects the company's significant influence.

Progress:

Recognized the significance of data stream processing to the ability to analyze and report business activity, and acted on it.

TIBCO:

Implemented an innovative complex event processing system to divine business events wisdom from enterprise chaos.

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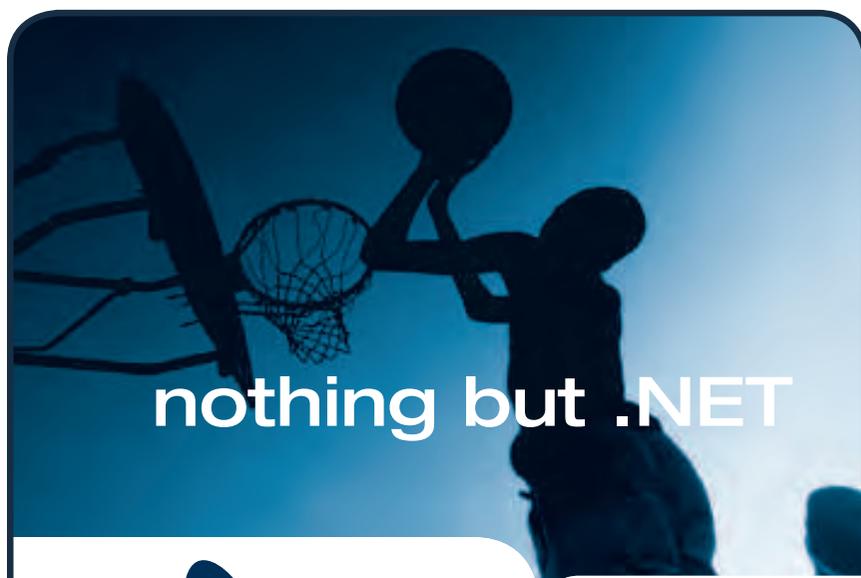


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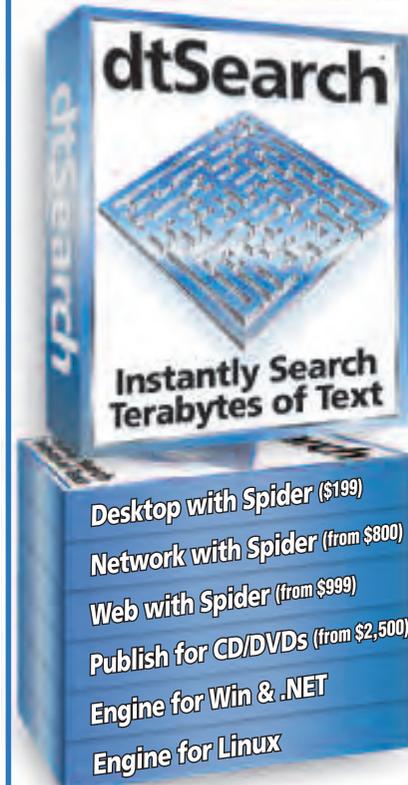
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Developer Quotes and Reviews

- dtSearch vs. the competition:**
“dtSearch easily overpowered the document indexing and searching abilities of other solutions, especially against large volumes of documents”
— *Wired Magazine*
- Reliability:**
“dtSearch got the highest marks from our systems engineering folks that I've ever heard of”
— *The Wall Street Journal*
- Results:** “customer response has been phenomenal”
— *eWEEK*
- “The most powerful document search tool on the market”
— *Wired Magazine*
- “dtSearch ... leads the market”
— *Network Computing*
- “Blindingly fast”
— *Computer Forensics: Incident Response Essentials*
- “A powerful arsenal of search tools”
— *The New York Times*
- “Super fast, super-reliable”
— *The Wall Street Journal*
- “Covers all data sources ... powerful Web-based engines”
— *eWEEK*
- “Searches at blazing speeds”
— *Computer Reseller News Test Center*

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MODELING

**OMG**

As the shepherd to UML, the industry consortium continued to advance the practice of modeling; its merger with BPMI.org now brings it into modeling of business processes.

Borland:

All Together now... Borland's modeling tool and the Core Architect piece of its software delivery optimization platform provide as complete a design portfolio as you'll find.

Embarcadero:

Its vision is easy to "describe"—enterprise architecture is most effective when organizations can map out data standards and then trace their efforts.

IBM Rational:

The bloom isn't yet off the industry-leading Rose, as new UML-based patterns for writing messaging into apps enhances modeling framework.

Microsoft:

Even though it couldn't deliver on its modeling tool in 2005, talk of domain-specific languages helped push new way to think about modeling and code generation.

Telelogic:

Addition of high-end modeling suite for really big projects to its UML tools gives company coverage of a broad space in the software and systems design markets.

SOFTWARE SECURITY

**Secure Software:**

CodeAssure's release schedule is every bit as aggressive as its underlying bug finding system. With Secure Software adding new features and offering management tools that are usable even by suits, the company has finally made security testing

easy enough and fast enough to become a standard part of the development process.

Cenzic:

Top-notch staff of exploit finders ensures that the company's database of attacks will always be up to date.

Compuware:

The 800-pound gorilla of testing software is also a top banana in security testing. With so many tools, Compuware's security offerings complete the menagerie.

Fortify:

Finding security holes is one thing, but fixing them is entirely another. Fortify knows how to write secure code, and its tools explain how to fix problems correctly.

Kenai:

2005 was dominated by SOA offerings, but securing them? Too early to discuss. But not for Kenai, which offered SOA security assessment tools.

Ounce Labs:

Security scanners tend to be trigger-happy and obtuse, but Ounce Labs offers friendly scanners with fewer false alarms.

DATA & HOST INTEGRATION

**Progress:**

The company's implementation of event-stream data processing to help in the analysis of large numbers of transactions for compliance and performance reasons showed real, well, progress.

Attachmate/WRQ:

Browser-based host access. Terminal emulation. Converting mainframe data to services. ETL. Security. What does this union of two longtime leaders in this space *not* do?

N Software:

By connecting everything to pretty much everything else, cross-platform data exchanges become easier and more secure, giving Web apps a big enterprise boost.

NetManage:

An emphasis on speed and flexibility in leveraging data from existing systems lands NetManage on this list, as does the ability to help business analysts save money by showing them where efficiencies can be found.

Quest:

Database developers who use the company's TOAD tool are thought of as princes in their organizations, as SQL code and queries can be created quickly and efficiently.

For a list of past winners, visit www.sdtimes.com.



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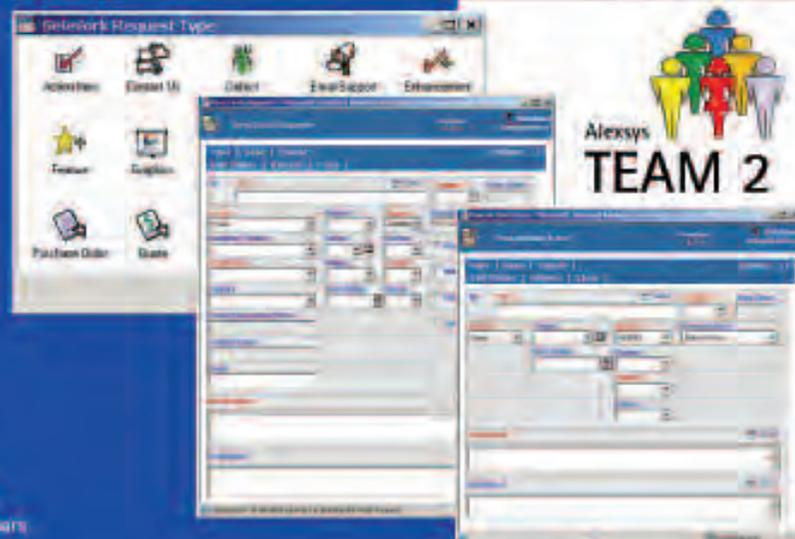
- Group Access Controls & Security Policies
- Keyword Searching
- Triggers
- Unlimited Flag & Discuss Notes

New in Team 2.8

- Support for Microsoft SQL Server 2005, MySQL 5.0 and Oracle 10g
- Custom Schema (SQL Only)
- Field Matching for Filters and Security Conditions

Team 2 Features:

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- Customizable Database
- Multiple Work Request Forms
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EDITORIALS

The Two Sides of SCO

When tech-industry conversations turn to The SCO Group, the first topic is invariably the Linux lawsuit. And, if that weren't enough to generate a strong visceral reaction against the company, some have even characterized the low-cost Unix indemnification licenses SCO started peddling to Linux shops after filing the suit as akin to a protection racket.

Many tech enthusiasts are rooting against SCO because of the lawsuit, and many writers in the tech media, which has a pro-open-source, pro-Linux bias, are subtly or overtly hostile to SCO. But the actual truth of SCO's allegations is for the courts to decide. And so, we continue to cover the company's products and services, and will give SCO credit for innovation when that seems justified.

One such case is with its newly announced EdgeClick platform, a mobile strategy hinted at a year ago by chief executive Darl McBride during an event at Yankee Stadium. This month, SCO delivered a key piece of this new platform, and it bears looking at. (The Yankees were doing much better in 2005 than this year; SCO is looking to turn things around after years of losses. As of Jan. 1 of this year, SCO's accumulated deficit is US\$239,523,000. That's not a typo. Its losses for fiscal year 2004 were \$16.2 million; for 2005 the loss was \$10.72 million. For the first three months of this fiscal year, the loss already is \$4.58 million.)

Yet SCO marches on. With EdgeClick, the company hopes to leverage a base of what it claims is 2,000,000 servers worldwide running UnixWare and OpenServer, giving those customers access to data, services and administrative capabilities whenever and wherever they happen to be.

From an infrastructure perspective, a middleware solution with a device-side presentation layer is certainly not original to SCO. But EdgeClick does offer some interesting flairs, namely EdgeClickPark.com, a Web portal where companies deploying the solution can find others doing the same, and promote their goods or services, set up partner relationships and administer deployed mobile applications. All of its mobile business will generate ongoing monthly revenue for SCO.

To its credit, SCO says it plans to route most of the new EdgeClick business it receives through its resellers and ISVs, even though it could easily go after much of that business directly. While SCO does earn consumer revenue from its Me Inc. consumer services, it wholesales those services to telcos and wireless carriers as well.

This company may be down, but that's due to its lawsuit-happy executive management. From a technology perspective, don't count SCO out just yet.

Honoring the Leaders

Leadership is not merely defined by being the biggest or strongest. A school bully who ends up with the most lunch money by taking the coins off smaller, weaker children is not a leader. No, to be a leader, you must have people who are willing to follow.

This is the essence of the SD Times 100 awards, which can be read on the preceding pages. The award recognizes those companies, individuals and organizations that lead the software development industry through product innovation, or advancement of the craft through specifications and standards. It is not about market valuation or stock price, although huge, profitable corporations have the resources to commit to research and development that will put them in the forefront of our industry.

The awards also are not about small companies that have tremendous new ideas but have yet to be heard. While we try to recognize small innovators throughout the year on our regular news pages, it seems inappropriate to call a company an industry leader when there is no buzz or traction. For now, like the fans of the old Brooklyn Dodgers, they'll have to be satisfied with having to wait 'til next year. ■

As Security Problems Grow, Time

When I started working on software security 10 years ago, I couldn't convince even my mother of its importance, much less network security guys and developers. Things have come a long way since then. Today, everyone seems to agree that we need to do something to address the security problem at the software level, and a number of companies are even starting to do something about it.

It's still the early days for software security, though, and it's a very good time to assess the state of the problem, how far we've come to address it, and how far we have to go. In general, I am very optimistic about the state we're in, especially considering the progress that leading software producers are making.

Gary McGraw



By Invitation

best practices that can be easily adopted by any software-producing organization no matter what software development process they currently use. I call these seven best practices the software security touchpoints.

By focusing security attention on a set of common software artifacts like source code, architecture and requirements documentation, I avoid religious warfare over which approach to building software is best and get down to the business of building better software. If you build software today, you're ready to adopt the touchpoints.

The seven touchpoints, presented in the order that they should be applied, are:

1. Code review with a static analysis tool
2. Architectural risk analysis
3. Penetration testing
4. Security testing
5. Abuse case development
6. Security requirements
7. Software security operations

Adopting all seven touchpoints may be too much to swallow for some organizations, especially all in one fell swoop. My recommendation is to start with the first two, code review and architectural risk analysis, and go from there. Whatever you do, though, don't fall into the trap of applying either of the first two touchpoints without the other. It is important to pay attention to both kinds of software defects that lead to security problems—bugs at the implementation level and flaws at the architectural level.

If you find yourself applying only the third touchpoint, by hiring "reformed hackers" to hack your software, you may do fine diagnosing the problem, but you're unlikely to know what to do about it. Better to review your code and take a close look at your software architecture, and then fix what you find.

One last thing about the touchpoints. Notice that the touchpoints are not security features or mechanisms like cryptography, authentication, access control and confidentiality. Instead, they are lightweight software analysis and construction activities that should be carried out during development. Software security is not security software.

SECURITY TOOLS

There are two kinds of basic tools for software security that are widely available: security testing tools (which I refer to as badness-ometers) and source code analysis tools.

Security testing tools for software, such as the ones made by SPI Dynamics and Watchguard, have an important role

WHY SOFTWARE SECURITY

By almost any measure, it's clear that the software security problem is growing. The Trinity of Trouble—connectivity, complexity and extensibility, the three major factors that make the problem a continuously evolving challenge—does its part to keep things interesting. CERT reports that the serious software vulnerability problem continues to grow, with an increase since 2000 of more than 500 percent. In 2005, there were 5,690 software security vulnerabilities that resulted in widespread security attacks.

What's critical to understand is that not all of these problems happen at the "application level" as some security vendors wish you to believe. Software security problems show up in router code, in operating system code, in cell phone code and even in code for public key cryptosystems. Sure, Web-based applications suffer from serious software security problems too, but declaring that the problem applies only to Web-based software running over HTTP is naive at best, and dangerous at worst.

If software plays an essential role in your business, you need to concern yourself with software security.

BEST PRACTICES

When I wrote "Building Secure Software" with John Viega six years ago, we spent much of our energy describing the problem. This was important philosophical ground-breaking, and I am very happy with the result, but the time has come to stop wringing our hands about the problem and start doing something about it.

The good news is that there is something we can do about the problem today. In my new book "Software Security," I describe in detail seven specific

for Software Assessment Is Now

to play in the evolution of software security. Though they test only Web-based application software, application security testing tools can help alert an organization to trouble in the software sector. That is, if canned black-box tests find problems in your applications, you know you're in very deep trouble indeed!

Of course, if the same tests find no security problems at all, all that you know is that those particular tests didn't find any problems...you do not know that you're secure. That's why I refer to such tools as badness-ometers (as opposed to security-ometers)—they can return results only in the range from "deep trouble" to "who knows?"

All that said, I hope everybody stocks up on badness-ometer tools and uses them on a daily basis. Turns out it's good to know if you're deep in software security trouble. Such knowledge can help motivate an initiative to do better.

More important to making progress in solving the software security problem than those tools that only diagnose the problem are source code analysis tools such as the ones produced by Fortify Software, Ounce Labs and Secure Software (to name just three). Static analysis tools that help developers and software security analysts find and remove common software security bugs from their code are essential. If you're not using a source code security scanner tool today, I believe you are negligent.

The first touchpoint is based on properly adopting these tools in all development groups. Of course you can't simply throw a bag of tools over the wall to the developers and expect the software

security problem to disappear magically. But these tools have built-in knowledge and analysis power often lacking in most software development shops.

SOFTWARE SECURITY INITIATIVES

Simply put, we can't tool our way out of this problem. Instead, we must adapt the way we build software by integrating security deeply into the software development life cycle.

Probably the best-known large-scale software security initiative in a large enterprise is Microsoft's Trustworthy Computing Initiative. That's because Microsoft has put some serious muscle behind the program and is proud to trumpet the result. Michael Howard, Steve Lipner and the others at the heart of the initiative deserve high praise for their work. The interesting thing is that many other large enterprises are diligently working on corporate-wide software security initiatives involving thousands of developers (though they're not touting them in public PR campaigns).

I've been fortunate to be directly involved in five such programs, in organizations ranging from large finance houses and investment banks to producers of consumer goods and hotel chains. Turns out that a number of large enterprises that you might not associate with software understand the kinds of business risks that software brings to bear, and they are working hard to manage them.

These large initiatives all have several things in common: a framework that is sponsored and supported at the executive level, a large-scale awareness and

training program for developers, creation and maintenance of a portal resource that includes code for development, and the instantiation and adoption of best practices like the touchpoints inside development groups themselves.

SOFTWARE SECURITY NOW

Organizations go through several phases of maturity when they address software security. First-stage companies still need to get a handle on the software pile and its associated risks. Second-stage companies build an internal group that often ends up functioning as a fire department. Third-stage companies execute against a framework for enterprise best practice adoption. We have customers in every stage.

No matter what size your organization is, from a handful of developers to tens of thousands spread over four continents, the time has come to spearhead a software security initiative. Computer security depends on it. ■

Gary McGraw, CTO of Cigital, is the author of "Software Security" (Addison-Wesley, 2006), "Exploiting Software" (Addison-Wesley, 2004), "Building Secure Software" (Addison-Wesley, 2001), "Java Security" (Wiley, 1996) and four other books. McGraw was a keynote speaker at BZ Media's Software Security Summit, February 2006, in San Diego.

WHAT DO YOU THINK?

SD Times welcomes feedback. Letters should include the writer's name, company affiliation and contact information. Letters become the property of BZ Media and may be edited for space and style. Send your thoughts to feedback@bzmedia.com.

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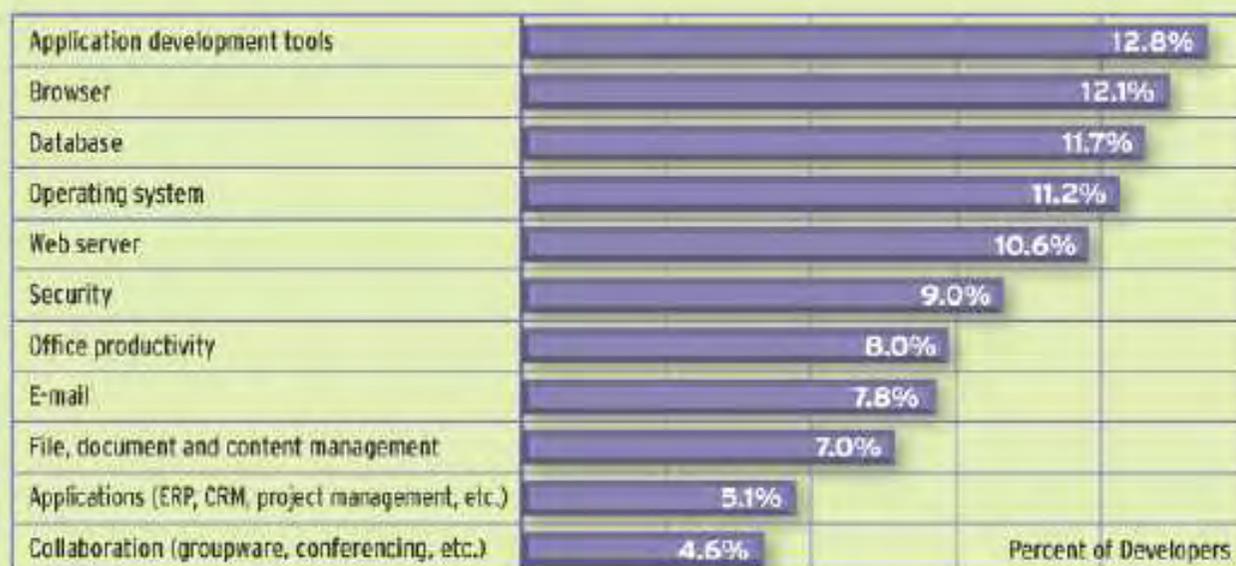
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Which Open-Source Software Is Your Company Considering? DATA WATCH

Nearly as many developers are considering the use of open-source development tools as open-source browsers, according to the Spring 2006 OSS/Linux Development Survey, published in April by Evans Data. The study included responses from 333 enterprise developers.



Source: Evans Data

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"If you get one impact idea from a conference it pays for itself. I got several at the ST&P Conference."

— Patrick Higgins, Senior Software Test Engineer, SSAI

A Taxonomy of Coding Errors

Programmers have the wrong idea about security. All too often, they see security as something that's external to the program—something to do with firewalls and routers and viruses and trojans. In fact, almost all of the real security “exploits”—the ones that bring down not just Web sites but whole corporate networks, the ones that let hackers harvest sensitive client information from your database—come from exploiting bugs in your software.

Put another way, the only way for a system to really be secure is to build it to be secure, and to test it thoroughly with security in mind. The most secure systems are the ones that are just plain built well: well thought out, well programmed, well tested. If you're careful about both the software you're building and the way you build it, the system will be inherently secure.

Unfortunately, most of the programs that are written nowadays are not exactly well done. The security problem is particularly nasty in the world of Web services, which are designed from the ground up to circumvent firewalls. This is what happens when you approach security in a wrongheaded way. “Oh, no,” says the IT security cop. “You can't

put a hole in my firewall for your paltry application!” “No problem,” says the wily programmer. “I'll just tunnel everything through port 80.”

A Web service is really nothing but a way to make a function call directly into your application server right through the firewall, and I can guarantee that many of the functions called in this way will have exploitable bugs that can bring down your server, or worse. There are a bunch of standards out there attempting to address the access problem, but none of these standards protects you from bug-induced security holes.

AJAX provides another hole you can drive a truck through. The HTTP communication between an AJAX Web client and server is effectively a set of function calls wrapped in XML (or not). These AJAX calls have effectively no security infrastructure around them, so a hacker who's pretending to be the Web page that you served has carte blanche to wreak havoc. The average hacker is not going to be nearly as polite with your AJAX infrastructure as the pages that you wrote.

Java Watch



So what's a mother to do?

Brian Chess at Fortify Software, along with Katrina Tsipenyuk (also at Fortify) and Cigital's Gary McGraw, have put together what amounts to a checklist of the most common errors that cause security vulnerabilities (vulncat.fortifysoftware.com). Their paper, “Seven Pernicious Kingdoms: A

Taxonomy of Software Security Errors,” describes their goal nicely: “We want to help developers...understand common types of coding errors that lead to vulnerabilities. By organizing these errors into a simple taxonomy, we can teach developers to recognize categories of problems that lead to vulnerabilities and identify existing errors as they build software.”

It's written to be accessible to programmers, unlike the vast majority of security-related verbiage. (Remember, most of the folks who write this stuff are into things like crypto—they like to obscure things.) The taxonomy is a list of programming problems and programming solutions—things that any programmer can understand immediately.

On the downside, the taxonomy needs many more examples and more in-depth explanations about why particular problems are indeed problems. It's not clear, in places, what the security implications of a particular bug actually are. (“Yeah, it's a bug, but so what?”)

For example, the taxonomy correctly points out that a finalize() call should always chain to super.finalize(). It does not talk about why it's a security problem not to do so (base-class objects may not give up system-level resources since their finalizers won't be called, and the system could eventually crash because too many resources are allocated).

Moreover, the taxonomy doesn't discuss other important issues that surround finalize(). For example, you could argue that using finalize() at all is a security flaw, since it slows down garbage collection by a couple of orders of magnitude. An attacker who hit on a way to create many objects that required finalization could bring your system to its knees.

My hope, then, is that someone will take this already-valuable list and run with it, expanding it out into a full-blown book that describes these issues in depth. Even without this extra work, the list as it stands is immensely valuable. ■

Allen Holub is an architect, consultant and instructor in C/C++, Java and OO Design. Reach him at www.holub.com.

The Last Time I Saw Elvis

If you pay attention to Microsoft's range of programming tools, you know of the work of three developers: Einstein, Elvis and Mort. Although you never actually see these fellows, or any code produced by them, you get a sense of their qualities.

Einstein, you hear, is a rarely seen C++ developer who works from a darkened office lined with bookshelves holding first editions of the collected works of Donald Knuth, Alan Turing and John von Neumann. Elvis is a C# developer, personable and on his way to greater things. His code, while not as awe-inspiring as that of Einstein, is dependable and reflects current thinking on proper approaches to problem-solving. Elvis, you think, is the kind of guy you'd like to have on your team.

Mort...well, people go out of their way to say he's a swell guy, but everyone knows he's pitied. Look no further than his lack of a cool nickname: It says something that the other two chaps have famously talented namesakes and Mort is “just a name.” Some other things about Mort you learn: He programs in Visual Basic, he's not interested in learning about his tools, he delivers brittle solutions quickly, and programming may not even be part of his job description.

Elvis, Einstein and Mort are not actu-

al people, but rather “personas” that help guide the design of Microsoft's programming tools. Although a beneficial concept, personas can mislead, and an increasing number of critics think that the time has come to send Einstein, Elvis and Mort into retirement.

The use of personas is a refinement of use-case or scenario-based analysis. Use cases were first described by Ivar Jacobson in the early 1990s and were quickly praised for their applicability to object-oriented and iterative development. Today it would be strange to attend an analysis discussion that wasn't primarily about use cases, scenarios or user stories. (Jacobson insisted that a single use case contained a wide variety of success or failure scenarios, a perspective that I think is helpful, but the distinction is not widely made.)

The advantage of personas is that they provide a model of user behavior and emotion, rather than a largely impersonal “Actor.” The idea that different users will value different behavior is certainly beneficial, especially when starting a project.

I've heard it said that Mort's essential character is that he's focused on delivering value, and I've heard it said that Einstein might redevelop a library

from scratch rather than use an existing one. In other words, Mort is every developer who deserves to be called a professional, and Einstein is 24 years old? Scott Bellware, a Microsoft MVP who blogs at codebetter.com, wryly observes, “I don't want a development team whose qualities have been spec'd out by marketing people.... Mort's good qualities and Elvis' good qualities aren't mutually exclusive.”

Several Microsoft MVPs agree with him: Tomas Restrepo, on winterdom.com, thinks that these personas were the source of the questionable decision not to include testing infrastructure in the Architect edition of Visual Studio Team System. Sam Gentile, on feeds.feedburner.com/SamGentile, called Bellware's rant “the best post of the year.”

The topic got a rise from some top minds within Microsoft. John Montgomery agreed that “the personas don't map to reality.” (He also says they were not developed by marketers and provides the tidbit that “the average programmer” uses more than two programs “regularly.”) And Paul Vick says “that most people are usually Mort, Elvis and Einstein all at the same time, depending on what they're doing. And by building

tools that target one or the other, we're artificially segregating people's work into buckets that don't really map onto their daily lives.”

To me, the problem is that, as if specified by Humpty Dumpty, what it means to be one of these personas seems to be whatever the speaker wants it to mean. Only one is focused on business value? Only one is fascinated by algorithms as subjects of study? Only one is interested in improving his work and learning new techniques? These are universal to the character of any professional developer.

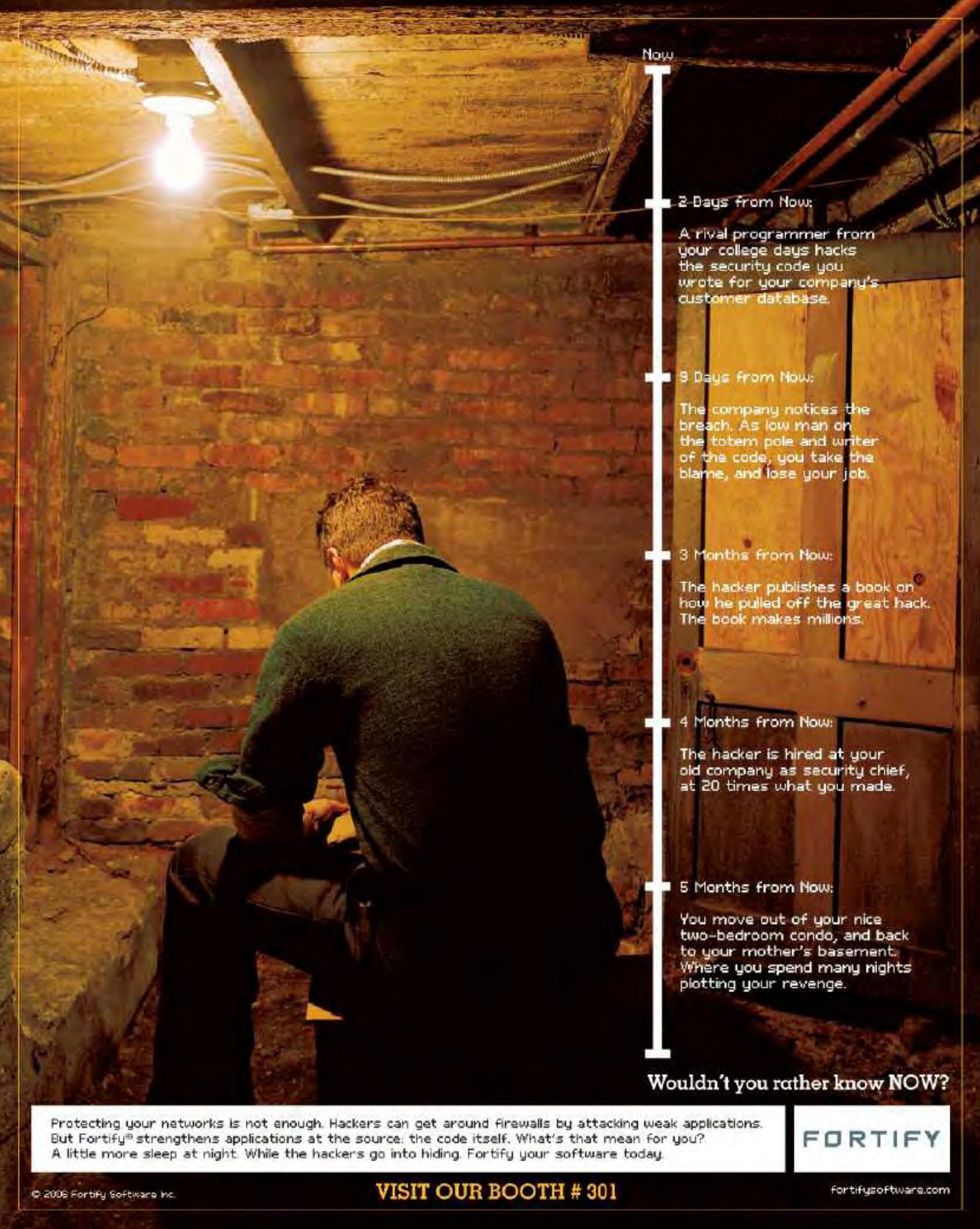
There seems to have been a good deal of effort expended by Microsoft in defining Mort, Elvis and Einstein, although no formal definition of them is publicly available (that they're kept private is the clearest sign that Microsoft is heavily invested). Like other stereotypes, though, whatever utility they have must be balanced against the damage they cause.

At this point, Mort, Elvis and Einstein have plenty of drawbacks and few benefits. It's time for Microsoft to start anew, with personas based on the practices of 21st century development. Names with obvious value associations should be dropped. Alice, Bob and Charlie may not be as catchy, but they may lead to better results. ■

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

Windows & .NET Watch





Now

2 Days from Now:

A rival programmer from your college days hacks the security code you wrote for your company's customer database.

3 Days from Now:

The company notices the breach. As low man on the totem pole and writer of the code, you take the blame, and lose your job.

3 Months from Now:

The hacker publishes a book on how he pulled off the great hack. The book makes millions.

4 Months from Now:

The hacker is hired at your old company as security chief, at 20 times what you made.

5 Months from Now:

You move out of your nice two-bedroom condo, and back to your mother's basement. Where you spend many nights plotting your revenge.

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FORTIFY

Rent Before You Buy Into Offshoring

Despite the fond hopes of many developers, the outsourcing and offshoring trend that began a few years ago is clearly a permanent fixture. Although there have been a few highly publicized failures, the basic premise of lower-cost software produced overseas has been validated. The original glitches have been worked out as U.S.-based companies have learned to manage such projects.

Developers in the United States have basically three responses to outsourcing: work for an employer that does not outsource yet, move to higher-value work or into management of outsourced projects, or leverage outsourcing themselves.

In previous columns on this topic, I have discussed the first two options. In summary, the first approach has a whiff of sticking your head in the sand. Companies that don't offshore today are likely to do so tomorrow, as I'll explain shortly. Working for them is a temporary solution—fine as you approach retirement, but not exactly the basis for a career decision.

The second approach of acquiring more skills is clearly a winner and is an active response, not a flight to temporary safety.

The third option is for you to leverage offshoring. This seems crazy at first

blush, because the general view is that only big companies go offshore. This view is nonsense. And as more firms see how easy it is to outsource part of their work, there will no longer be safe havens for the head-in-the-sand types.

One way to outsource development is to use RentACoder (www.rentacoder.com) as described by my colleague Allen Holub in his May 15 column ("The Clearinghouse Model," page 37). This is a site that works similarly to eBay. Companies post projects and a rough estimate of how much they're willing to pay. Coders bid on the projects. Money is placed in an escrow account and freed by the contracting company as milestones are met.

Both companies and coders are rated on a 10-point scale. The top developers are listed in descending order of their ratings, so companies that want to contact or contract with the best of the available pool can do so directly. Of the top 10, three are located in the United States (including the top two spots), with India and Romania taking most of the remaining places.

I spoke with a user of RentACoder, who was himself a former developer but

is now successfully running a direct-sales organization. He needed a fresh corporate design, including a new logo, an interactive Web site, a shopping cart and all the requisite security mechanisms. He placed his bid on RentACoder, and 45 days later he had a new look, a new Web site, and he was steadily taking orders via the Web. Total cost: US\$1,000. And, as

he points out, it would have cost less, but for the fact that the first designer was not as good as he wanted. So the figure includes two designs of the corporate look.

At these prices, it makes lots of sense for even small firms to consider outsourcing projects. As the user confided to me, "I know C++, and I've done assembly language development, so I could have learned PHP and set it up myself. But I could not have done it as fast, as well, or as cheaply as by outsourcing it this way." Web sites and database work hugely predominate the kinds of projects for which companies use RentACoder. This makes sense as those projects tend to be one-time efforts that call upon skills that might not exist in-house.

Suppose that you are a developer in

charge of a similar project (and which does not require exposing existing code to an outside entity). Does it make sense to hire those skills or outsource them? And if you can be assured of high-quality work, doesn't it make sense to get that work done at the lowest possible price? I think so.

Moreover, I believe that as companies identify developers whose work is consistently superior, they will integrate them into the team on a contract basis, and the offshoring model will work its way into all the nooks and crannies of U.S. commerce. You can and should leverage this resource rather than fighting back in a losing struggle.

Outsourcing could well branch out beyond this point. For example, TopCoder (www.topcoder.com) sponsors worldwide programming competitions in which developers design reusable components. The best-implemented of these components are then made available on the company's Web site and royalties are paid to the developers. Offshore component development—especially of reusable components—is a natural evolutionary step.

Whatever the future holds, it's clear outsourcing and offshoring will expand into new niches. And smart folks will figure out how to exploit the benefits to their professional advantage. ■

Andrew Binstock is the principal analyst at Pacific Data Works.

Integration Watch



Andrew Binstock

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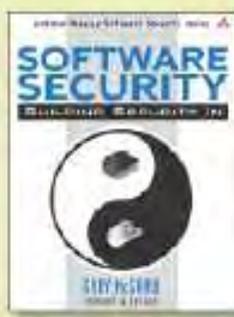
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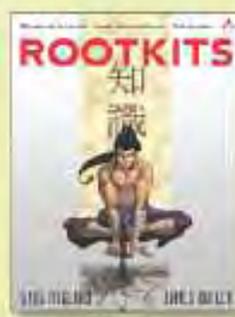
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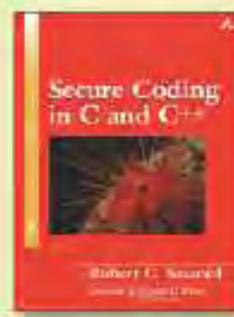
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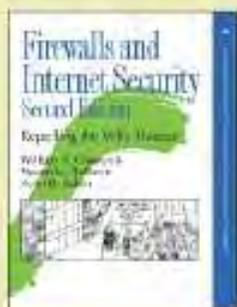
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Where's Sun's Leadership?

A couple of years ago, on the cover of this newspaper, we asked the question, "Is Sun Toast?" The context was billion-dollar losses, lagging market share, and a general sense that the company was losing its relevance.



Now, in the wake of co-founder Scott McNealy's abdication of the CEO position, it's time to ask the question anew.

This time, though, the driver was our editorial board discussions about the SD Times 100, in which we list the companies, people and organizations that we believe are leaders and innovators in the software development space.

Category by category, we looked for leaders, and most times Sun was not among them. Microsoft, for example, was named in seven of 15 categories, IBM in six. Sun was named in four.

We cited Sun for its tools, which we felt help make development of complex Java applications easier, even though studies by BZ Research show use of those tools lags Eclipse and most other Java development environments.

We named Sun for its Glassfish app server project and its contributions to the server-side Java specifications, even though those same studies show Sun's app server is much less popular than those of industry leaders BEA, IBM and now JBoss.

We named Sun as a general industry influencer, but interestingly, not for its shepherding of Java, but more for its moves to open source and services. Our thinking was that Sun—however embattled the company is by investors, Wall Street and other Java companies that no longer want to ante up the dollars to stay in Sun's game—has

remained an important company. That may not be true much longer.

Perhaps Sun is like a major-league ballplayer at the end of his career, getting respect from pitchers more for his past batting achievements than for what he is capable of doing today. In the mid-to-late 1990s, Sun was the company that all things not Microsoft rallied around. Sun, through Java's promise of "write once, run anywhere," became the home of the "best of breed" camp in its war against

Industry Watch



David Rubinstein

Microsoft, vendor lock-in and monolithic software solutions.

It went wrong, though, when Sun was slow to compete with its Java partners on products. It appeared as if Sun was reluctant to use its position as leader of the Java world to defeat its business competitors, who also were cooperating on the Java standards. BEA, IBM and others

did not share this reluctance. Those companies made products that passed Sun's Java compatibility tests and worked well, but then added compelling proprietary features on top, which they later offered up for standardization, giving them a big first-mover edge.

Sun never really got the hang of the standards game. Again, going back to the late 1990s, Sun offered up Java to the European consortium Ecma as a means of fast-tracking it to a standards body. Before the process even got off the ground, though, Sun mysteriously pulled the spec from Ecma.

Later, as vendors partnered up to advance specs for Web services, Sun always seemed to be on the outside looking in, complaining that it wasn't invited to participate in those groups. Meanwhile, its own initiatives failed to gain wide adoption (see NetBeans) or were more about playing catch-up and cleanup than actually advancing the

industry (EJB 3.0, POJO). The biggest failure by Sun was its reluctance to get aboard the Eclipse train, which now has left the station, with Sun holding its NetBeans bag on the platform.

Last month, Sun heralded the completion of Java Enterprise Edition 5 and EJB 3.0. When it was reported in our newsletter, SD Times News on Thursday, a reader wrote in: "EJB 3.0, aka the Java Persistence API, is essentially nothing but a tacit admission on the part of Linda DeMichael and her middleware mates that the previous four versions of the spec were nothing but an incredibly expensive series of mistakes, and that they've finally decided to adopt superior competing technologies, throw out the last six years of their blundering, and call it EJB 3.0. And we've had all of the functionality that the radically simplified Java EE 5 model delivers for at least the last three years with Servlets, JSPs and JDO (or Hibernate if you like vendor lock-in)."

Ouch!

There is, however, one area in which Sun unquestionably is still an important leader and innovator—mobile phones and smartcards. J2ME is the dominant platform for phone developers, and Java smartcards are in widespread use.

So as we sat down to analyze all this, the questions were, and still are, for Jonathan Schwartz and Sun's new management team: How important is Java to developers these days? Why are alternative technologies, such as Ruby on Rails, attracting so much interest? Has the problem of Java complexity finally caught up with the platform? Has Eclipse made all other frameworks irrelevant?

By answering these questions in a positive way, Sun can again show leadership in our industry. Sun was a software industry leader back in the 1990s because people believed in its vision and message. The trick for the company is to win those people back. It may already be too late. Sun may already be toast. ■

David Rubinstein is editor-in-chief of SD Times.

BUSINESS BRIEFS

ANTs Software raised US\$9 million through a private offering of common stock. The funds will be used for marketing, sales and product development programs related to the ANTs Data Server, a high-performance relational database compatible with most popular databases, the company said. . . . **SOA Software**, provider of SOA and Web services management software, has acquired **Blue Titan**, a Web services networking company, for an undisclosed sum. Blue Titan adds multiple implementations of messaging standards for customers using different platforms and protocols to SOA Software's governance, management and security expertise. . . . **DreamFactory**, provider of adaptive on-demand applications, announced a US\$5.8 million round of funding led by **New Enterprise Associates**. The funding allows DreamFactory to expand the company's sales and marketing operations as well as product development teams. DreamFactory claims its software combines the agility of on-demand solutions with the richness of customized packaged applications.

EARNINGS: **webMethods** achieved 25 percent license revenue growth for its fourth quarter, driving total revenue for the quarter to US\$59.4 million. License revenue for the quarter was \$27.6 million, compared with \$22.2 million in the prior

year's fourth quarter, when total revenue was \$52.9 million. GAAP net income for the fourth quarter was \$8.3 million, or 15 cents per share, compared with a net loss of \$3.9 million, or 7 cents per share, in fiscal 2005. For the 2006 fiscal year, total revenue was \$208.8 million compared with \$200.6 million in the prior year. . . . **Microsoft** reported a 13 percent increase in revenue for the third quarter of 2006 to US\$10.90 billion, compared with the \$9.62 billion garnered in the same quarter last year. Demand for Microsoft's business and consumer products drove revenues, with the server and tools group posting its 15th consecutive quarter of double-digit revenue growth. The company's SQL Server revenue jumped 30 percent from the prior quarter. Net income was \$2.98 billion, or 29 cents per share, compared with the same quarter of last year, when net income was \$2.56 billion, or 23 cents per share. . . . **Sybase's** revenue for the 2006 first quarter increased 2 percent to US\$195.0 million, from \$191.9 million for the first quarter of 2005. . . . The third quarter of 2006 marked **Pervasive Software's** 21st consecutive quarter of profitability. Revenue was US\$11.4 million for the quarter and net income was \$4 million or 2 cents per share, compared with revenue of \$12.4 million and net income of \$1.0 million, or 4 cents per share, for the same quarter last year. ■



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Application Integration & Web Services Summit June 19-21

San Diego
GARTNER
www.gartner.com/2_events/conferences/apn16.jsp

VSLive! June 21-24

Las Vegas
FAWCETTE TECHNICAL PUBLICATIONS
www.ftponline.com/conferences/vslive

Better Software Conference June 26-29

Las Vegas
SOFTWARE QUALITY ENGINEERING
www.sqe.com/bettersoftwareconf

Web Design World July 10-12

Seattle
FAWCETTE TECHNICAL PUBLICATIONS
www.ftponline.com/conferences/webdesign-world/2006/seattle

Agile 2006 July 23-28

Minneapolis
AGILE ALLIANCE
www.agile2006.com

Open Source Convention July 24-28

Portland, Ore.
O'REILLY MEDIA
conferences.oreillynet.com/os2006

EclipseWorld 2006 Sept. 6-8

Boston
BZ MEDIA
www.eclipseworld.net

Software Test & Performance Conference Nov. 7-9

Boston
BZ MEDIA
www.stpcon.com

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar. Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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