Sun Reveals a Slew of Moves at JavaOne

Sun announces that it will open-source Java Development Kit and take on Flash and Microsoft Silverlight.

Sun Microsystems has announced the release of an open-source version of its Java Development Kit for Java Platform Standard Edition, the systems company and Java giant also announced a new competitor to Adobe's Flash and Microsoft's Silverlight, as well as a new mobile initiative.

Sun has contributed the software to the OpenJDK Community as free software under the GNU GPLv2 (General Public License version two). Sun also announced that OpenJDK-based implementations can use the JCK (Java SE 6 Technical Compatibility Kit) to establish compatibility with the Java SE 6 specification.

Sun also said it was making available the TCK (Test Compatibility Kit) associated with OpenJDK, however the company did not say whether that availability would keep organizations like the Apache Software Foundation from shipping versions of its Harmony open-source implementations of Java.

Apache said certain "fields of use" restrictions regarding the TCK were preventing it from adopting Sun's technology for use in Harmony.

Jonathan Schwartz, CEO at Sun, said in a press conference, "there is no reason that Apache cannot ship Harmony today ... We're very focused on the GPL community."

That is technically true, but Apache officials said that to do so with the TCK restrictions in place would actually go against the Apache Software license. Meanwhile, Rich Green, Sun's executive vice president of software, said the TCK issues were being worked out

"Less than one year after we announced our intent to release Java technology as open-source software under GPL v2, we have achieved our goal," Green said in a statement.

"Now the free and open-source community has access to Java Platform Standard Edition, Enterprise Edition and Micro Edition as free software under the GPL. We look forward to working with the Java community and the free and open-source communities to determine the future of Java technology."

This announcement represents one of the largest source code contribution to the free software community and the open-source release of one of the industry's most significant and pervasive software platforms, Sun officials said.

Available immediately at the OpenJDK project on java.net , is all the unencumbered source code for Sun's future implementation of Java SE 7, as well as binary plugs for the remaining few instances of encumbered code.

Meanwhile, Sun is creating a process for OpenJDK-based implementations of Java SE to test for compatibility. Once certified, these implementations will be eligible to use the "Java Compatible" brand, while still meeting all of their obligations under the GPL.

This process will advance the "write once, run anywhere" promise of Java software compatibility into the free and open-source software world, and help guarantee the innovations made possible by the OpenJDK project remain available to everyone.

The company also announced a new, five-member JDK Interim Governance Board. The first task of the board is to develop a charter or constitution, said Onno Kluyt, chair of the Java Community Process. The
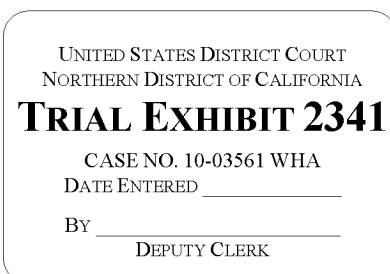
Interim Governance Board's charter is to draft and gain ratification of a new constitution for the OpenJDK Community within the next year, with active participation from the membership, with the goal of OpenJDK governance being representative of a broad and inclusive consensus.

The community will then hold an election to replace the Interim Governance Board with a duly elected board in accordance with the constitution.

Rich Sands, community marketing manager for OpenJDK community, on the opening of the rest of the JDK, said: "We now have a fully buildable JDK. All the class libraries are open. There are only a couple of things still to be done, like the font and graphics rasterizers, but the community will eventually take care of those, we believe. For now, we have binary plugs available for those."

Sands added that this will finally give Sun a full enterprise open-source stock to run with Linux distributions like Ubuntu. "The whole stack is open source from top to bottom. And it's backed by Sun. Governments, like Brazil, are demanding this kind of network enterprise stack that is totally compatible with Linux," he said.

Anne Thomas Manes, an analyst with Burton Group, said that OpenJDK is five years too late, but that it's finally done and it's going to be very beneficial to the Java community in general.

In addition, Sun has created pre-built NetBeans IDE (Integrated Development Environment) projects to make it easy and intuitive for developers to get started with OpenJDK, the company said.

Sun officials said that with the NetBeans IDE 6 preview release, developers can download the source code, open it in the NetBeans IDE, and use the Build Project command to build a working JDK.

"On the Java side, things have been going remarkably well during the last year," Green said. "Our developer numbers are up to about 6 million, that's 20 percent up over last year; there are over two billion mobile handsets running Java worldwide. There's a total of about five billion Java-powered devices worldwide. So health-wise, Java is doing very well."

However, to keep moving Java forward in line with increasing demands from the network-centric consumer-to-enterprise and business-to-business communication markets, Sun made four new announcements at JavaOne.

"First we are introducing a new family of products called Java FX," Green said, "They are all from Sun and built on or around Java that will be addressing new opportunities in the consumer communication market. Java FX will be used in all areas: desktops, handheld devices, mobile devices, embedded devices, enterprises...."

The first product release in that family, called Java FX Mobile, is a complete software system from the metal on up, to be used for phones and handheld devices, that includes the operating system all the way through the user experience, Green said.

It includes a set of applications and development platform so that people can create applications that are appropriate to this new powerful person-to-person communications system.

The third announcement is about the open-sourcing of the rest of the Java Development Kit. "In November we announced the open-sourcing of the Java compiler and runtime; this announcement includes the rest of the JDK, except for a couple of smaller things - the font rasterizer being one of them," Green said.

Lastly, Java FX Script is a scripting language focused on content authors and others in the creative crowd, Green said. "It is designed to deliver visually impactful, dramatically improved Web and network-facing

experiences that run from Java SE all the way down to devices running Java FX Mobile."

Added Green: "With these, we are taking the world of Java development and sort of introducing it to the larger world of content creation. We are leveraging the wide availability and security of Java in the network and allowing the creative community to come in and write applications to be used in a wide variety of deployments."

Meanwhile, despite the addition of JavaFX, Sun will continue with its Java ME (Micro Edition). "Java ME will continue to be used in the development community; it was designed for devices that need less functionality than Java SE. Those devices will keep proliferating in the industry," Green said.

Indeed, "Java FX is essentially a great opportunity for developers to write apps for mobile devices, battery powered devices, using the computing power of Java SE," Green said. "We're finally at a point where the core Java SE capabilities are brought all the way from the desktop down to mobile devices."

Moreover, James Gosling, the creator of Java, said that he looks at this in two ways: one is the APIs the developer sees.

"You look at Java ME - it's been on this trajectory over the last five years, as the phones become more and more capable. They've been going up and up and up. They've been converging on the full-op desktop systems," Gosling said.

"Here are parts of the world where a person's desktop is their cell phone. That's kind of the end point we want to get to. One way to think of the Java FX mobile stack is that it is the next step in the progression of ME as it gets to be more and more like Swing."

In addition, said Gosling: "The other way I like to think about this is from our own product perspective; we've tended to build fairly shallow artifacts that sit on top of phones. We've never been able to offer them - developers - a stack that they can run on a handset. So this fits into the evolution of ME because it offers deeper capabilities for developers to build more sophisticated apps."

Gosling added that in the future, people are going to need a stack with a lot richer graphical capabilities and network capabilities.

"Basically in this new world you can pretty much do everything," Gosling said.

Schwartz said Sun's open-sourcing move and its plans to make its new technologies such as JavaFX and JavaFX Script, the scripting language for creating rich content and applications, free of charge, is to empower users.

But in the end, Gosling said he believes that JavaFX will be used first where the money is.

"We suspect that Java FX will be used immediately where developers can make the most money - in games," he said.

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