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XML all the way down

FROM DATA STORE THROUGH APPLICATION CODE, XML PAVES NEW PATHS



Xml is evolving from a flexible tool for data representation into an even more powerful end-to-end medium for enterprise applications. XML's roots are spreading into the lowest reaches of the database, while its upper branches are flowering into XML-based languages that use the disciplined semantics of XML to manipulate themselves.

The result is the kind of unified platform that's been known to turn developers into evangelists—or, at the very least, into fast-growing communities that spur substantial application toolmaker investments.

For example, October marked the general release of JustSystems' xfy Enterprise Solution for IBM DB2 9 and for Oracle Content Database 10g, along with announcements of an alliance between IBM and Japan-based JustSystems (whose U.S. base is in Palo Alto, Calif.). These events represent XML-centric unification on several levels.

An application can use DB2 9, released this summer, to get the performance benefits and the straightforward representation of hierarchical relationships that come with native data representation (right down to the disk) using XML tree structures. The new DB2 release has a hybrid nature, though, which preserves the value of development skills and infrastructures based on familiar relational design.

An application front end can then use xfy as a document or Web page construction tool for delivering XML content to the user, or the developer can use JustSystems' XVCD scripting language to write a fully interactive application whose source code is itself an XML document.

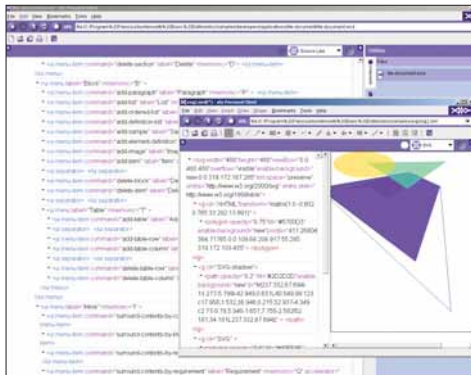
The same ease of transformation that lets XML data be used in many ways can likewise be applied to let such applications offer different capabilities to users with

different roles, needs and privileges.

Developers are compelled to develop XML skills and to master XML-focused tools as the language of the enterprise increasingly uses XML for both its nouns and its verbs.

"With the advent of Web services and service-oriented architectures, it is quite common for intracompany and intercompany interactions to be processed by use of XML messages," wrote IBM researcher Kevin Beyer and a team of co-authors from IBM, Microsoft, Yahoo and other firms in a paper published in the IBM Systems Journal for the second quarter of 2006 (www.research.ibm.com/journal/sj/452/beyer.html).

The same authors continued, "In such cases, the message is more than the transaction request; it is also a business artifact, such as a purchase order, an order inquiry, an invoice, and so forth. Such messages need to be retained for many reasons,



JustSystems' xfy dynamically illustrates the ease of end-to-end XML development.

including auditing, regulatory compliance, and nonrepudiation."

When applications rest on a foundation of XML data and use XML throughout the application chain, interfaces are simplified and flexibility is preserved.

That flexibility is dynamically demonstrated by the free xfy Basic Edition, which is available (with registration) at www.xyftec.com/products/basic. Visual editing of scalable vector graphics, for example, updates

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the XML text that describes the graphic object in a side-by-side view (see screen).

At first, this may seem unorthodox—or even bizarre—but it's really just one more level of indirection. Common graphical editors already provide a layer of abstraction, letting the user click and drag the anchor points of an object rather than directly edit a binary data structure; the xfy environment merely takes this process one level higher, operating on an XML representation that's interpreted and rendered in real time.

What makes this a compelling change is that when the editing process ends, the product is an XML text stream that can go anywhere and be used in any way.

Further spurring the growth of the XML-centric developer community is the continuing trend toward making ever more material available free to developers, at least for trial, if not for indefinite use.

Developers can download a 90-day trial version of DB2 9, supported by a broad library of IBM tutorials and other resources, at www.ibm.com/developerworks/downloads/im/udb.

Oracle's offerings are available at www.oracle.com/technology/software/products/database/oracle10g.

Also taking place in October was the formal ratification of SOA-RM (Reference Model for Service Oriented Architecture) Version 1.0, which gives technology builders and users a standard framework for composing distributed systems whose components may have different owners.

Approved last month by members of OASIS, SOA-RM is not specific to the use of Web services and certainly not to XML-based Web services implementation. Nonetheless, it provides a foundation for multivendor cooperation—and for best-of-breed solution assembly—by technology providers, system integrators and enterprise buyers who have chosen to use those SOA-enabling technologies. **e**

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