

[HOME](#)[SITE INDEX](#)[SEARCH](#)[HELP](#)[CONTACT](#)[CART](#)

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Engineering and applying the Internet

[Hot Links](#)[Events](#)[Cache](#)

XML Products

Lisa Rein and Jim Woolum • [Finetuning.com](#)

- [P2P Applications](#)
- [Integrated Development Environments](#)
- [Web Services](#)
- [Document Management and Publishing](#)
- [Wireless](#)
- [Query Engines](#)

XML Resources Page

[Intro](#) • [Companies](#) • [Products](#) • [Links](#) • [Tutorial](#)

Last updated: 13 March 2002

P2P Applications

[.Net My Services](#)

Microsoft Corporation

.Net My Services is what Microsoft's Hailstorm has evolved into. Central to the .Net My Services architecture is Microsoft's Passport user-authentication system, which is also used in MSN Messenger and Hotmail. .Net My Services technology is a user-centric (rather

than device- or application- centric) Web-based information storage and retrieval service. It is layered "on top" of the .Net infrastructure and sits "behind" the identity/security mechanism offered by Passport v3.0.

The .Net My Services family of XML Web services will be invoked over the Web primarily via XML, SOAP, and UDDI. So far, the following services are included in .Net: profile (for user name and information), contacts, locations, alerts, presence, inbox, calendar, documents, applicationsettings, favoriteWebsites, wallet, devices, services, lists, and categories.

Rather than charging for the tools in the final .Net My Services software development kit (SDK), which is required to start development, Microsoft plans to charge developers an annual subscription fee. The company also plans to sell the servers and server software required to make the system work. Tools for developing .Net My Services will also be included in the Visual Studio . Net integrated development environment (IDE).

Groove Preview Edition

Groove Networks

A preview edition of Groove P2P secure collaboration software is available for download. The software is primarily used in corporate networking to create ad hoc networks using an XML data format to provide decentralized, collaborative workspaces. The Groove client software installed on each machine (known as a "transceiver") includes a large library of components that implement features including text chat, voice chat, sketch pad, file sharing, scheduling, threaded discussion. In a Groove network, all files are duplicated on each station to assist offline work, and all data and communications are encrypted for security; work sent beyond company firewalls is actually protected by 192-bit encryption.

The Groove SDK lets developers add custom components via C++ or Javascript and HTML. Building components and configuring Groove require knowledge of XML. Groove is built on a COM object model, and the current recommended IDE is Visual Studio .Net.

Transceivers require at least a 233 MHz Pentium processor, 64 Mbytes of RAM (with 32 Mbytes available for Groove), 40 Mbytes of disk space, an 800 x 600 display with 15-bit resolution, and if voice features are used a sound card, speakers and microphone. Groove

supports Windows 98, ME, 2000, XP, and NT4.

BabbleNet

IBM

BabbleNet is an XML-based communication protocol and real-time chat application that uses a decentralized modular framework and multicast peer location protocol to allow users to construct ad hoc chat networks without connecting to or involving a centralized server. Users can also edit a babblenet.properties file to create private subnets. BabbleNet supports all Java platforms. The distribution is free for noncommercial and lawful use under the terms of the IBM alphaWorks license agreement. The BabbleNet installer is based on another alphaWorks technology, the install toolkit for Java. BabbleNet will run on any operating system that supports Java version 1.3 and above.

(Note: Some problems have been reported when running this version of BabbleNet with version 1.3 of IBM's Java runtime environment on some platforms. If you run into this problem, try using Sun's reference implementation of JRE.)

JXTA Search

Sun Microsystems

JXTA Search is an open source, distributed search engine for peer networks and distributed Web content and services. Based on Sun's Project Juxtapose (JXTA), Java, and XML, JXTA Search implements a new XML Query Routing Protocol (QRP) for query and response description. QRP also defines metadata for nodes in the network. JXTA itself implements a group of protocols that let nodes find one another and organize into peer groups, and handles messaging and group organization. JXTA Search runs above these core services to implement distributed peer searching.

To use the service, users become members of one or more hubs. The hub software is distributed as a Web application archive (.war) that runs inside a Java servlet 2.2-compliant container such as Apache Tomcat, and Sun provides the binaries for anyone who wishes to set up a hub. A [Web front end](#) and sample content/service provider are also available for download at the JXTA Search site. JXTA Search is

distributed under the terms of an Apache-style Sun Project JXTA software license.

[Top](#)

Integrated Development Environments

ColdFusion UltraDev Studio

Macromedia

ColdFusion UltraDev Studio combines Allaire's ColdFusion Studio with Macromedia's UltraDev. The goal is to create a visual rapid application development tool that provides everything a developer needs to create the front end and back end of a Web site, including rich interactive graphics and automated database functionality. A WYSIWYG active server pages and Java server pages environment with built-in Fireworks and Flash features can generate CFML, ASP, JSP, SQL, HTML, and Javascript code. Users can also enter code manually, with line numbering, auto-indenting and keyword color-coding for HTML, Javascript, ASP, JSP, and CFML.

A split view enables the visual editor and code editor to be used simultaneously and updated in real time. The Studio includes UltraDev's extensible architecture, which lets users record, save, and play back sequences of actions, and offers the ability to add features via the UltraDev Javascript API. It also includes some additional low-level APIs for tasks such as file I/O and data translation.

Users can view and edit live server-side data on the desktop, and several prebuilt extensions to the editor are available free from the Macromedia Exchange. The Studio includes a library of ASP, JSP and CFML server scripts, and supports multiple scripting languages, including PHP and VBScript.

ColdFusion UltraDev Studio requires Windows 95/98/ME/NT4/2000 (English, French, German, or Japanese versions), 215 Mbytes of hard disk space, and 128 Mbytes of RAM. A fully functional free 30-day evaluation copy is available for download.

Komodo

ActiveState

Komodo is a cross-platform IDE that uses a single code development feature set in a common interface across multiple programming languages regardless of final output form (standalone application, style sheet, and so on). Features include syntax checking, syntax coloring, autocomplete, debugger, project manager, block folding, and method tips. It also provides the Rx toolkit for building and debugging regular expressions.

Komodo primarily supports Perl, Python, PHP, Tcl, and Extensible Stylesheet Language Transformations (XSLT), but it can also be used for simple edits in additional languages, such as Ruby, Visual Basic, and SQL.

The ActiveState Programmer Network (ASPEN) is an online developer resource that offers programming help and a searchable indexed knowledge database with access to sample code, mailing list archives, and product documentation. Technical reference materials, including O'Reilly & Associates books for Perl reference, are also accessible. Komodo is built on XML-based User Interface Language (XUL), which is based on the Mozilla codebase.

System requirements include an x86 architecture with a 233 MHz or better processor, plus Windows 95/98/ME/NT4/2000 with 230 Mbytes of hard disk space and 128 Mbytes of RAM, or Linux 2.2.0 with 200 Mbytes of hard disk space and 128 Mbytes of RAM. Komodo requires a license for Windows only (Linux use is currently license-free).

[XML Spy](#)

Altova

XML Spy has grown from an XML editor into a full IDE that handles editing and validation of XML, schema, and DTD documents and Extensible Stylesheet Language (XSL) editing and transformations.

The current version of the IDE supports the final recommendation of the XML schema language, the ability to convert schemas from earlier versions to the current version, and to convert existing DTDs, XML data, or BizTalk schemas to the XML schema definition language. XML Spy also supports active data objects (ADO) and object-oriented database connectivity (ODBC) import and export and allows users to generate XML schemas from any ADO or ODBC-accessible SQL database.

The XML Spy Document Framework, based on XML schema and XSLT stylesheets, is also available. It includes a document editor that offers a word processor-like application for editing and creating XML content, with real-time validation and consistency checking using XML Schema. The Framework also include the XSLT designer, which is a graphical XSLT editor.

The entire XML Spy Suite, which combines the base IDE with Document Framework, is available for download from the XML Spy Download Center. A new XML Spy B2B Server product that allows developers to use XML Spy from within B2B and application servers is also available.

Lutris Enhydra

Lutris Technologies

Lutris Enhydra is an open source Java/XML application server for developing and deploying Web applications for a wide range of clients. Standards support includes: XML v. 1.0, Document Object Model (DOM), Extensible Hypertext Markup Language (XHTML), HTML, Flash, Extensible Stylesheet Language (XSL), Java Servlets, Java Server Pages, and Java Database Connectivity (JDBC).

The new Wireless Development Suite adds support for Wireless Markup Language (WML), i-mode (cHTML), Short Message Service (SMS), VoiceXML, Flash, and Java 2 Platform Micro Edition (J2ME). Presentation can be optimized with Enhydra's native XML engine, XML Compiler (XMLC), which dynamically converts XML or HTML documents to Java classes represented by DOM objects.

Also bundled with Enhydra are: InstantDB, a Java relational database management system (RDBMS), Sun's Forte for Java Community edition, Borland's JBuilder Foundation, PostgreSQL relational database, Nokia's WAP toolkit, WAPTop WAPTor WML editor, J2ME toolkits from Sun and Motorola, and phone emulators from Motorola, Nokia, Pixa, and YoSpace.

Enhydra requires a Java runtime environment and supports Apache, Netscape Enterprise Server, and Microsoft IIS Web servers. It is available for Unix, Linux, Windows, and Windows NT and can be downloaded free from Enhydra.org under an Enhydra Public License. A boxed version with manuals and support can also be purchased and licensed.

PerXML

PerCurrence

The PerXML Smart Transformation System is an XML data transformation and development environment used to integrate native XML and legacy data or integrate various types of dynamic content. The system allows users to convert legacy data to XML, convert XML data to legacy data formats, or transform and deliver content as XML, HTML, WML, VoiceXML, WAP messages, or several other formats.

PerXML is an XML-based language used to create PerXML document templates, which control the transformations. The PerXML engine has interfaces that allow it to run as an extension of Internet information server (IIS) Web servers, from within a COM-compliant environment such as a Visual Basic application or active server page, or from within XML editing tools (XML Spy recommended).

PerXML is available for download from the PerXML Developer Center, which also offers a tutorial, sample projects, an XSL FAQ, security instructions, and information on joining the beta program.

PerXML supports Windows NT4 (with Service Pack 4), Windows ME or Windows 2000, and requires Microsoft Windows Script, Microsoft Script Debugger, and Microsoft data access components.

GoXML Transform

XML Global Technologies

GoXML Transform is a transformation environment for dynamic integration of XML documents with legacy data such as EDI documents or with several other supported file formats and data sources.

Users build transformation templates with the drag-and-drop Template Editor application. The Java-based GoXML Transform Engine performs specified transformations using the templates. The company claims the engine can perform 100 document transformations per second for EDI-to-XML.

Database access includes all relational databases and more than 80 legacy databases. The application supports SOAP, XML, HTTP, TCP/

IP, SSL, simple mail transfer protocol (SMTP), XML query language (XQuery), electronic business XML (ebXML), and universal description, discovery, and integration (UDDI).

GoXML Transform has APIs for Java, Java database connectivity (JDBC), object-oriented database connectivity (ODBC), object linking and embedding database (OLE DB), component object model (COM), and ActiveX. It supports Java, Perl, C, C++, Cobol, COM, ActiveX, and C# programming languages.

GoXML Transform requires a Java 2 enterprise edition (J2EE) runtime environment and is available for Windows NT/2000, Linux 2.2, Solaris 8, and OS/390. An evaluation CD-ROM and downloadable trial version (lengthy registration required) are available.

[Top](#)

Web Services

[SOAP Toolkit 2.0 \(service pack 2\)](#)

Microsoft

Microsoft's SOAP Toolkit 2.0 provides a high-level COM interface, a low-level SOAP interface, and a schema-enabled SOAP messaging object (SMO) interface. Also included are a client-side component that allows applications to invoke Web Service Description Language (WSDL) services and a server-side component for mapping Web service operations to COM object message calls.

The toolkit allows users to generate COM interfaces that correspond to WSDL operations and to create WSDL files from COM typelib descriptions. Microsoft's MSXML 3.0 parser is also included in this release. The toolkit requires Microsoft's Visual Basic Runtime and Internet Explorer 5.

[Web Services ToolKit v. 3.01](#)

IBM

The IBM Web Services ToolKit allows developers to create and implement Java-based Web services within any operating system environment. The kit includes UDDI for Java (UDDI4J) version 2

preview, an API that provides program and script access to any UDDI node from any standards-compliant browser. It also includes a private UDDI registry, a WSDL generation tool that supports COM and SOAP encryption, and a digital signature handler that works within the Apache Axis SOAP chaining framework.

The WSTK comes with WebSphere micro edition, Xerces, Xalan, and SOAP preinstalled. It includes instructions and configuration utilities for using WSTK with WebSphere Application Server 4.0 or Apache's Jakarta Tomcat. The current version includes new samples and interfaces for reliable hypertext transfer protocol (HTTPR) and supports WebSphere's Web Services Stack (WSS), Web Services Inspection Language (WS-Inspection), the Key Registration Service Specification (X-KRSS), and SoapConnect for Lotus Script.

The Web Services Browser plug-in that shipped with earlier versions of this toolkit is now [available separately](#) from the IBM alphaWorks website. A working demonstration and several examples are also included. The kit is available for Windows NT, Windows 2000, and Linux.

[Apache Axis](#)

Apache Software Foundation

Apache Axis (or Apache SOAP 3) is a Java implementation of SOAP 1.1 that now uses event-based parsing (through the Simple API for XML [SAX]) rather than DOM for improved speed. Axis is a complete rewrite of the Apache SOAP architecture. It can be used as a client library or within a servlet container to invoke SOAP services.

The current version includes support for the Java API for XML-based remote procedure calls (JAX-RPC), plug-in SOAP services, HTTP servlet transport, and automatic WSDL code generation. Axis features a java2wsdl tool for building WSDL from Java files and a provider for accessing Enterprise Java Beans (EJB) as services. Support for the SOAP with attachments specification and SOAP actor attribute, multidimensional arrays, and complex type definition generation in WSDL are not complete in this release, but will be included in the final release.

[interbindIBX 1.2](#)

Killdara/Interbind

InterbindIBX 1.2 is a Java-based application that allows users to connect to or create Web services using a variety of messaging and communications protocols, including HTTP, XML, ebXML, HTTP secure (HTTPS), SOAP, WSDL, Java message service (JMS), and UDDI.

Application code can be written in Java, or in JavaScript, VBScript, Python, Tcl, PerlScript, or other scripting languages. InterbindIBX can serve as a container for both service and client code. It provides Java-to-XML serialization and deserialization and has a footprint small enough to support mobile applications. Prebuilt message envelopes are provided to cover a variety of message types, and several built-in services are included as well.

Interbind's XML Messaging Server requires a version 1.2 or later Java virtual machine, an XML parser that supports (or separate parsers for) the DOM and SAX2. For secure communications, the server also requires Java Secure Socket Extension (JSSE) 1.02 or later and Java Cryptography Extension (JCE) 1.2.1 or later. Compiling source code for the Interbind XML Messaging Server requires Java 2 SDK standard edition (J2SE) 1.2 or later and a SAX2 or DOM-based XML parser. The source code and software for the messaging server is available for free download for personal and educational use or licensed for noncommercial development by commercial organizations.

Note: Killdara Corporation has acquired Interbind, and availability of interbindIBX 1.2 could be subject to change.

Top

Document Management and Publishing

Visual Net

Antarcti.ca

Visual Net is a "visual mapping" application that creates 2D and 3D maps of shared virtual spaces for navigation through networked data in enterprise applications. It is designed to enable nontechnical users to access and browse the content of an organization's database, whether it is stored in a centralized location or accessed across a distributed network. The application can map any information network

composed of hierarchically organized categories (such as folders) and data objects (such as files).

Antarcti.ca's Visual Net technology, brainchild of XML pioneer Tim Bray, generates a metadata database from the contents of a conventional database and then uses the metadata as a map for rendering a 2D or 3D representation with clickable access to database content. Visual Net can be licensed or used as a hosted service. It runs on the Apache server (and can therefore run on any hardware platform or operating system that runs Apache).

OpenCola Folders

OpenCola

OpenCola (Open Collaborative Object Lookup Architecture) is an open source distributed computing and peer-to-peer exchange application platform. It provides collaborative filtering services that generate small, nimble networks that can learn and grow smarter based on the aggregated decisions of participating users.

OpenCola Folders' embeddable relevance engine can be integrated into existing applications or service-based content distribution architectures. OpenCola Folders can also help transform existing networks into high-speed content distribution systems using a combination of distributed computing and forward error-correction encoding .

The Cola SDK is a collection of APIs and developer tools for building OpenCola Folder agents that automatically collect, analyze, and deliver dynamic content to users with similar interests. The first release of the COLA SDK will be Windows-based and geared toward enabling the rapid creation of development prototypes.

Schemantix Business Service Suite

Schemantix

Schemantix Business Service Suite is a suite of Web services for business documentation. It is built on the Java-based Schemantix business service platform, which comprises the XServer component set and XStudio visual design and editing tools for schema-driven development.

Schemantix business services use schemas to model business processes and provide end users with a Web form interface for interaction. Seven services are currently available that automate business service for customers of Commerce One and SAP e-Marketplaces: billing, payment, bank payment gateway, logistics, reporting, quotation request, and factoring.

[XChart](#)

Dr. Jonathan Borden, Open Healthcare Group

XChart is an open source implementation of the Open Healthcare Group's XML Patient Healthcare Record system. The goal is to create a universal, perpetual, indexed, and searchable electronic medical record. The Open Healthcare Group has been involved in standards processes such as the American Society of Testing and Materials (ASTM) Healthcare Informatics effort to standardize XML DTDs for healthcare documents.

The XChart Opnote Generator demo uses Java servlets and an XSLT transformation engine to create healthcare documents such as operative reports, which the system automatically enters into the XML repository, and e-mails as HTML for the billing process.

XChart is an RDF application that defines the process of creating an XML medical record as a sequence of documents. This approach has the potential to provide great benefits to the healthcare system by enabling intelligent agents to aggregate information for medical research studies, medical outcomes analysis, and medical error reporting.

[Top](#)

Wireless

[FleetASAP](#)

@road

FleetASAP is a specialized system for managing automotive fleets via an "intelligent wireless" network that can handle communications, vehicle tracking, and real-time location mapping. This enables dispatchers for "location-driven services" to send out the closest

appropriate vehicle. The system then records all information regarding the transaction and provides detailed reports based on the location, speed, direction of travel, and service stops in real time (daily, monthly, and so on). It can generate reports for a fleet, segment of fleet, or individual vehicle.

[ThunderHawk](#)

BitStream

Bitstream ThunderHawk is a Java thin client microbrowser for wireless devices that provides end users with a high-resolution scaled down screen that the company says renders identically to a full-size browser. ThunderHawk's very small 100-Kbyte footprint could allow wireless carriers and service providers to provide "real" Web browsing to PDAs, cellphones, and other wireless-enabled devices without having to modify their existing content. Bitstream's new wireless font set technology lets ThunderHawk display a complete Web page on small color LCD screens (320 x 240 pixels).

[Top](#)

Query Engines

[eXist XML Document Repository](#)

SourceForge

eXist is a database and retrieval engine for XML documents. It uses a partial XPath implementation and full-text search support, which can be applied to XML documents stored within a relational database to enable faster retrieval of whole documents or document fragments. eXist includes a native back end that uses sequential files and btrees for indexes. The application supports PostgreSQL as a storage back end and the DOM level 2 for handling namespaces, comments, and processing instructions. eXist provides support for regular expressions, a NEAR function for tolerant queries, and two back end databases: a Java native database and a relational database with support for MySQL and PostgreSQL.

[XML Agent](#)

Media Fusion

XML Agent is an open source tool for converting relational databases to XML databases. It works with and is partially dependent upon the Yggdrasil high-performance native XML database engine for large scale systems (Yggdrasil is sold in the U.S. under the name "Sekaiju"). XML Agent has demonstrated interoperability with Delphi, Visual Basic, Visual C, Perl, and Ruby. DTDs are optional and a simplified, proprietary query language patterned after XPath is included.

XML Agent requires a third-party relational database back end to implement parts of the query function, but the company says all relational database definition details are handled transparently. The program's engine is highly customizable, and the object and major elements of its source code are available under open license terms.

[Top](#)

XML Resources Page

[Intro](#) • [Companies](#) • [Products](#) • [Links](#) • [Tutorial](#)

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