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Ecma International Approves ECMAScript for XML

New international standard adds native XML support to ECMAScript

20th July, 2004 – Geneva, Switzerland – The Ecma General Assembly has unanimously approved ECMAScript for XML (E4X) as an international standard (ECMA-357). E4X is a vendor-neutral set of programming language extensions adding native XML support to ECMAScript (ECMA-262, or ISO/IEC 16262), one of the most widely used programming languages.

E4X provides a simple, familiar, XML programming model that flattens the XML learning curve by leveraging the existing skills and knowledge of one of the largest developer communities worldwide. It reuses familiar programming language concepts, operators and syntax for manipulating XML data, meaning software developers can start creating, navigating and manipulating XML with little to no additional knowledge. E4X reduces code complexity, time to market and revision cycles; decreases XML footprint requirements; and enables looser coupling between code and external data.

The E4X standard was proposed in Ecma's programming languages Technical Committee (TC39) by a group of companies led by BEA in June 2002. The ECMAScript Task Group (TG1) of this committee immediately agreed and started drafting the specification. ECMA members BEA, IBM, Microsoft, Macromedia, Mozilla, Netscape/AOL and invited experts contributed to the development of the specification.

The group has completed several independent implementations to validate the specification and is already working on the next version of E4X, which will include support for the XML schema language and other type systems. BEA has donated a complete E4X implementation to the Mozilla open source project and expects it be available in August 2004 as Mozilla Rhino 1.6. Ecma International plans to include the E4X feature set as an integral part of ECMAScript Edition 4.

"I'm proud of what we've accomplished", said **John Schneider** of AgileDelta, who led the development of the standard representing BEA, "E4X brings the power of simplicity back to

XML. It's exciting to see leading application server, browser and mobile device vendors pulling together to make E4X available everywhere developers need it."

"E4X is amazingly intuitive and powerful", said **Adam Bosworth**, Chief Architect and Senior Vice President of Advanced Technologies at BEA, "It is a great improvement over previous methods for dealing with XML and is an important component for manipulating data in some of our products."

Jan van den Beld, Ecma International Secretary General, commented, "All at Ecma are delighted with this progress. If their constant enquiries are any indication, ECMAScript users too are keen for the standard to evolve. E4X will certainly be a jewel in future revisions of the ECMAScript standard."

Rod Smith, VP, Emerging Technologies - Software Group, IBM commented "Our customers will benefit from ECMAScript for XML. It provides a more intuitive approach to incorporating XML into ECMAScript applications. This powerful scripting technology will encourage new innovation in dynamic HTML-based Internet applications."

"E4X brings even more power and functionality to ECMAScript and shows the strength of open standards," said **David Mendels**, general manager, Macromedia. "We leverage ECMAScript broadly throughout most of our products and it serves as the foundation for ActionScript, the scripting language for both Macromedia Flash and Macromedia Flex. Continued refinement of this standard ensures our developers are able to use a very familiar language for building rich Internet applications."

"E4X brings simplicity, convenience, and fun to XML processing, very much in keeping with the spirit of ECMAScript's origins," noted **Brendan Eich** of Mozilla.org, creator of JavaScript, "I'm delighted to see this expressive extension to the ECMAScript standard. Both of Mozilla's JavaScript engines (Java and C versions) will support E4X in the near future."

About ECMAScript

The ECMAScript (ECMA-262 or ISO/IEC 16262) Language Specification 3rd Edition, December 1999, is the foundation for Web pages that do something more than displaying text and images. As an indicator of its popularity, in June 2004, popular search engine Google found 21 million references to "JavaScript", 762 000 references to "JScript" and 76 000 references to "ECMAScript". This represents nearly double the number of articles found in February 2003.

The international standardization of the language was originally driven by ECMA members Netscape and Microsoft, whose browser- or server-specific implementations include Netscape/AOL's JavaScript and Microsoft's JScript, which offer supersets of this full-featured programming language.

ECMA is in the process of harmonizing the various diverging extensions of ECMAScript. Although the recent closure of Netscape/AOL's browser development unit has delayed the scheduled publication of ECMA-262, Edition 4 is now expected to be released in Q3 2005. This will update the standard with respect to the language and the various differing implementations.

About Ecma International

Ecma International is a not-for-profit industry association of technology developers, vendors and users and has developed standards for information and communication technology (ICT) and consumer electronics (CE) since 1961. Industry and other experts work together in Ecma which then submits the approved work for approval as ISO, ISO/IEC and ETSI standards.

Ecma is the inventor and main practitioner of “fast tracking” of specifications through the standardization process in Global Standards Bodies like the ISO. In ISO/IEC JTC 1, Ecma has the status of an A-liaison, equivalent to a national body without voting rights. Since its start in 1987, over 196 (more than 80%) of the 232 submissions for fast-track processing in JTC-1 have come from Ecma.

Main areas of standardization include: Scripting and programming languages; Optical and Magnetic storage; High speed interconnects; Safety, Environmental, Acoustical and Electromagnetic product attributes; Enterprise and Proximity Communication and Networking; and File and Volume structures. Publications can be downloaded free of charge from <http://www.ecma-international.org>.