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Ecma International finalises major revision of ECMAScript

Final draft of ECMA-262 – the ECMAScript language standard – has been published

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This is the final development milestone for the revised standard. The candidate specification will now undergo interoperability and web compatibility testing. It is anticipated that the candidate specification will be submitted to the Ecma General Assembly for ratification as an Ecma standard before the end of 2009.

ECMAScript, Fifth Edition

This revision of **ECMA-262** will be known as ECMAScript, Fifth Edition. It was previously developed under the working name ECMAScript 3.1, which will no longer be used. ECMAScript is the scripting language that is used to create web pages with dynamic behavior. ECMAScript, which is more commonly known by the name JavaScript™, is an essential component of every web browser and the ECMAScript standard is one of the core standards that enable the existence of interoperable web applications on the World Wide Web.

The Fifth Edition codifies *de facto* interpretations of the language specification that have become common among browser implementations and adds support for new features that have emerged since the publication of the Third Edition. Such features include accessor properties, reflective creation and inspection of objects, program control of property attributes, additional array manipulation functions, support for the JSON object encoding format, and a strict mode that provides enhanced error checking and program security.

The last major revision of the ECMAScript standard was the Third Edition, published in 1999. After completion of the Third Edition, significant work was done to develop a Fourth Edition. Although development of a Fourth Edition was not completed, that work influenced ECMAScript, Fifth Edition and is continuing to influence the ongoing development of ECMAScript. Work on future ECMAScript editions continues as part of the previously announced ECMAScript *Harmony* project.

The Candidate Specification

The ECMAScript, Fifth Edition candidate specification has been developed by Ecma TC39 whose membership includes all major browser vendors. The Candidate milestone designates that the authoring process is complete. This now begins a testing and validation phase of the project where TC39 members will create and test implementations of the candidate specification to verify its correctness and the feasibility of creating interoperable implementations. The test implementations will also be used for

web compatibility testing to ensure that the revised specification remains compatible with existing web applications. TC39 members Opera, Mozilla, and Microsoft have each committed to participating in this testing process. Testing is expected to be complete by mid-July 2009. It is anticipated that any technical errors and ambiguities will be resolved during this process, and that a final draft of the specification can be agreed upon in September for submission to the Ecma General Assembly for final approval in December 2009. It is anticipated that this will result in a fast-track submission to ISO/IEC JTC 1 for revision of ISO/IEC 16262.

The ECMAScript, Fifth Edition Candidate Specification is now publicly available from the Ecma International web site (<http://www.ecma-international.org/publications/files/drafts/tc39-2009-025.pdf>). Technical experts are invited to review the candidate specification and submit feedback by July 15, 2009 to ES5-feedback@Ecma-International.org.

Industry Reaction

Brendan Eich, Mozilla CTO and creator of the JavaScript language, said "*The Fifth Edition of ECMAScript makes real improvements based on browser innovation and collaboration in Ecma, which provides a solid foundation for further work in future editions.*" Microsoft's ECMAScript architect, **Allen Wirfs-Brock**, commented "*We expect the Fifth Edition to benefit all web developers by helping improve browser interoperability and making enhanced scripting features broadly available.*"

About Ecma International

Since its inception in 1961, Ecma International (Ecma) has developed standards for Information and Communication Technology (ICT) and Consumer Electronics (CE). Ecma is a non-profit industry association of technology developers, vendors and users. Experts from industry and other organizations work together at Ecma to develop standards. Ecma often submits its work for approval as ISO, IEC, ISO/IEC JTC 1 and ETSI standards and is a frequent practitioner of "fast-tracking" of specifications through the standardization process in international standards organizations. Ecma publications can be downloaded free of charge from the Ecma International website www.ecma-international.org.

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