

Intel® XSLT Accelerator 1.1 for Java* Environments

Release Notes

Intel® XSLT Accelerator for Java* Environments

Version 1.1

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Overview

Intel® XSLT Accelerator 1.1 is a high-performance library for Java* Environments, designed for extensible stylesheet language transformation (XSLT) processing in industry standard servers and application environments. Intel® XSLT Accelerator is the first generation of the family of Intel XML processing libraries.

Compatibility

Intel® XSLT Accelerator 1.1 conforms to the XML 1.0 and XSLT 1.0 standards and to the Java API for XML Processing (JAXP) 1.3 transformation Plugability Layer interface.

Intel® XSLT Accelerator 1.1 is drop-in compatible with the Apache* XSLTC processor, with the exception of the `ExpressionContext` interface for user-defined extensions, which is not currently supported.

Conformance

Intel® XSLT Accelerator 1.1 conformance to the XSLT 1.0 standard is measured using the Apache* Xalan-Java* portion of OASIS* XSLT 1.0 conformance test suite. Superior conformance is shown with a 98% pass rate. Full details may be obtained by contacting [technical support](#).

Upgrade Path

No application code changes are required to upgrade from the Intel® XSLT Accelerator 1.0 library.

Evaluation Limitation

Please note. If you obtained this product under an evaluation license, then execution will cease after 60 minutes and a restart is required.

Related Products and Services

Information on Intel software development products is available at <http://www.intel.com/software/products>.

Some of the related products include:

- The [Intel® Software College](#) provides training for developers on leading-edge software development technologies. Training consists of online and instructor-led courses covering all Intel architectures, platforms, tools, and technologies.
- The [Intel® C++ and Fortran Compilers](#) are an important part of making software run at top speeds with full multithreading support for the latest Intel IA-32 (including 64-bit architectural extensions) and Itanium® processors.
- The [VTune\(TM\) Performance Analyzer](#) enables you to evaluate how your application is utilizing the CPU and helps you determine if there are modifications you can make to improve your application's performance.
- The [Intel® Performance Library Suite](#) provides a set of routines optimized for various Intel processors. The [Intel® Math Kernel Library](#) provides developers of scientific and engineering software with a set of linear algebra, fast Fourier transforms and vector math functions optimized for the latest Intel Pentium® and Intel Itanium processors. The [Intel® Integrated Performance Primitives](#) consists of cross-platform tools to build high performance software for several Intel architectures and several operating systems.
- The [Intel® Threading Analysis Tools](#) including the Intel® Thread Checker, Intel® Thread Profiler and [Intel® Threading Building Blocks](#) are the fastest way to thread your application correctly and unleash its true performance on Intel® multi-core processor systems.
- The [Intel® Cluster Tools](#) including the Intel® Cluster Toolkit for Linux*, the Intel® MPI Library for Linux*, the Intel® Trace Analyzer and Collector for Linux*, the [Intel® Math Kernel Library Cluster Edition](#) for Windows* and Linux* and the Cluster OpenMP for Intel® Compilers help to create, analyze, and optimize high-performance applications on clusters of Intel® processor-based systems.

What's New

Enhancements

Enhancements made in the 1.1 release include

- **EXSLT:** Implementation of additional EXSLT non-core functions: `date:add()`, `date:duration()`, `date:add-duration()`, `date:seconds()`, and `date:difference()`. For definitions of these EXSLT functions, please see <http://www.exslt.org/date/index.html>.
- **Apache* Xalan-Java* Output Redirect Extension:** Added support for output redirect extension using the Apache* Xalan-Java* specific namespace, as described on the Xalan website <http://xml.apache.org/xalan/redirect>.
- **Enable XMLFilter:** Enhanced the `SAXTransformerFactory` object implementation to include `FEATURE_XMLFILTER`: <http://java.sun.com/j2se/1.5.0/docs/api/javax/xml/transform/sax/SAXTransformerFactory.html>.
- **Performance improvements** for SAX and DOM `char` input and output types and encodings

- Inclusion of **standards-based API Reference Documentation** in the package, see the `doc/javadoc` directory in the product installation directory.
- **Enhanced packaging and installation** mechanism.

System Requirements

Intel® XSLT Accelerator requires the following hardware and software:

Hardware Recommendations

- A system based on Dual-Core Intel® Xeon® processor 7100 series, or a system with Intel® Pentium 4 processor
- At least 1GB of RAM for optimal performance

For a comprehensive list of supported and recommended hardware, please refer to the [Installation Guide](#) distributed with the product.

Software Requirements

To use Intel XSLT Accelerator, you need a Java Run-time Environment (JRE*) and a supported operating system, as indicated below. The following JRE sets are recommended for use with Intel XSLT Accelerator:

- Sun J2SE* version 1.5.0 (Windows*/Linux* – 32 bit) <http://java.sun.com/j2se/1.5.0/>
- BEA JRockit* version 1.5.0 R26 (Windows*/Linux* - 32 bit) <http://dev2dev.bea.com/jrockit/versions.html>

For a list of platforms, against which Intel® XSLT Accelerator has been validated, please consult the [Installation Guide](#) distributed with the product.

Documentation

For installation instructions, please refer to the [Installation Guide](#). For a complete list of documents distributed with the Intel® XSLT Accelerator library, consult the [Documentation Index](#).

Known Limitations

Encoding

The IBM-1208 and EBCDIC-Latin-0 encoding names in the XML declaration of stylesheets are not supported in this release. IBM-1208 is the alias of UTF-8 that is supported, and EBCDIC-Latin-0 is the alias of IBM1047 that is supported.

The product supports external entities only in UTF-8 and UTF-16 encoding. All external entities should be in UTF-8 or UTF-16 encodings or the library will report an error.

Threading

The library is validated with about 150 application threads to successfully execute transformation and show adequate response. The most performance-efficient threading configuration is the thread number equal to the number of logical CPUs.

In highly multi-threaded systems, creating a new thread for each transformation can cause an out-of-memory condition. To avoid this situation, re-use existing threads by means of a thread pool mechanism. Alternately, you can create the new `Transformer`

instance using a single static `Templates` object, not a `Factory` object. This problem does not occur in JRE* 1.6.0.

File Size

Intel XSLT Accelerator can transform XML input files of up to 500 MB. The supported input size depends of the complexity of file structure: the more complex the structure the smaller files size that can be processed. The library throws an exception when it fails to process a file due to its size.

EXSLT

Intel® XSLT Accelerator 1.1 provides a compliant implementation of the following EXSLT extension modules:

- Common functions
- Dates and times
- Math
- Sets
- Strings

The EXSLT specification, <http://www.exslt.org>, defines Core and Other functions for each module. Only Core functions are required for compliance. For a listing of the Other functions which may be provided in this product, please refer to the user guide. Some of these are declared to be unstable by the specification and should be used with caution. As an example, the number type used in the EXSLT specification follows the definition in XPath 1.0, which is a double-precision 64-bit format IEEE 754 value. For the `date:duration()` function this limits precision. The result returned by `date:duration()` may not be accurate enough to hold all significant digits.

64-bit Intel® Architecture Support

The current version of Intel® XSLT Accelerator is a 32-bit library. It runs inside 32-bit JVMs on both IA-32 and Intel® 64 architectures.

Other

• OS Support

The library is validated to run on the operating systems and Java Runtime Environments, as indicated in section [System Requirements](#). This library might also run on other combinations of the operating system and JRE*. The current version of the library does not run on Red Hat Enterprise Linux* AS/ES 2.1 and earlier versions due to a conflict with the `glibc` static library.

• Output Properties:

The following transformer output properties are ignored:

- `transformer.setOutputProperty(OutputKeys.MEDIA_TYPE, "media_type_property");`
- `transformer.setOutputProperty(OutputKeys.VERSION, "version_property");`

Known Issues

ID	Description
489	There is an incorrect import precedence when using attribute sets. This may result in an incorrect attribute value for imported stylesheets.
500	An attribute node is incorrectly included in <code>self::*</code> and <code>self:center-attr</code> nodesets.
572	There may be extra output of string-values of descendant comments and processing instructions when outputting string-value of a node.
584	Incorrect output is generated when <code>disable-output-escaping='yes'</code> is used within <code>xsl:variable</code> .
587	When processing an instruction containing a closing <code>?></code> symbol combination, the instruction closes prematurely and leaves another <code>?></code> symbol combination.
719	The attribute specified on the literal result element does not override an attribute specified in attribute set.
993	The namespace attribute specified in <code>xsl:attribute</code> may override the namespace of its containing element.
1122	Whitespaces in text may be stripped incorrectly when the text contains an XML comment or a processing instruction.
1203	The function <code>unparsed-entity-uri</code> does not work correctly.
1214	The xpath function <code>substring</code> returns incorrect strings on Windows* platforms.
1224	The <code>quot</code> character used in an attribute value is not properly encoded when HTML is the output method.
1227	The <code>tab</code> character is not represented correctly when it is used in an attribute value.
1229	The function <code>format-number</code> may get incorrect results when alphabetical characters are used as the decimal format.
1230	The function <code>xsl:number</code> may generate an incorrect alphabetic sequence for Greek numbers.
1232	On Linux* systems only, the accuracy may be low for the EXSLT function <code>math:power()</code> .
1269	The EXSLT function <code>math-power()</code> may get an incorrect result when the <code>-fast</code> option is used for Intel® C++ Compiler.
1270	The library uses the JDK default identity transformer to load stylesheets. When the JDK default identity transformer is Xalan-J 2.7.0 there is a problem with stylesheets containing entity declarations like the following: <code><!ENTITY sep ' "' " ' ></code> . The Xalan-J 2.7.0 transformer transforms them to <code><!ENTITY sep " " " " ></code> and invalidates stylesheets. Workaround: use Sun JDK 5.0 or BEA JDK 5.0.

1328	Line numbers in error messages can be inaccurate because stylesheets might be modified (some whitespaces can be deleted) while loading.
1462	Special characters may be represented incorrectly in CDATA sections.
1533	When an XML document is transformed to <code>DOMResult</code> , the left angle bracket, ampersand, and other delimiters defined in the XML specification are always escaped in spite of the value of <code>disable-output-escaping</code> .
1543	Forwards-Compatible Processing is not supported. The user may get unexpected results when the stylesheet version is not equal to 1.0.
1550	The CDATA sections in the stylesheet will be output as normal text.
1697	An issue was discovered while running the SPEC JVM <code>xmltransform</code> test. An out-of-memory exception can be thrown when handling large result tree fragmentations.
1727	When the output encoding is neither UTF-8 nor UTF-16LE nor US-ASCII nor ISO-8859-1, the redirected output is always encoded into UTF-8.
1757	Intel® XSLT Accelerator Java* classes cannot be loaded by two <code>ClassLoader</code> instances because of native library loading rules: different class loaders cannot load the same native library. This is a known limitation of the current JVMs. The workaround of the problem is either to use the Java* Extension Mechanism or to make <code>intel-xslt.jar</code> visible to the JVM system classloader.
1791	When the HTML output mode is used, the transformer generates incorrect encoding info in HTML META tag if non-UTF encoding is used for output.
1801	There is a memory leak when each transformer is created in a new thread many times, and it is specific to Sun Java* 2 Standard Edition: <code>jdk1.5.0_06</code> , <code>jdk1.5.0_09</code> and BEA JRockit* R26: <code>jrockit-R26.4.0-jdk1.5.0_06</code> . The workaround is for each new thread to create the new transformer instance using single static <code>Templates</code> object.
1867	The error message "Processing ended by exception from non-lexer component. Exception caught and rethrown" may be incorrectly reported when what truly happened was that an out-of-memory condition occurred while processing a very large file.

Technical Support

To receive technical support for the tools provided in this product and technical information including FAQ's and product updates, you need to register for an Intel Premier Support account at the [Registration Center](#).

To register for an account, please visit the Intel® Registration Center web site at <http://www.intel.com/software/products/registrationcenter/index.htm>. If you have forgotten your password, please email a request to: quadsupport@mailbox.intel.com. Please do not email your technical issue to this email address.

Submitting Issues

If you have questions or problems getting started with the Intel® XSLT Accelerator

please contact support at <https://registrationcenter.intel.com/support/>.

Note:

Please notify your support representative prior to submitting source code where access needs to be restricted to certain countries to determine if this request can be accommodated.

To submit an issue via the Intel® Premier Support website, please perform the following steps:

1. Ensure that Java* and JavaScript* are enabled in your browser.
2. Go to <http://www.intel.com/software/products/support>.
3. Type in your Login and Password. Both are case-sensitive.
4. Click the **Submit Issues** button.
5. Read the Confidentiality Statement and click the button **I Accept**.
6. Click on the **Go** button next to the **Product** list.
7. Click on the **Submit Issue** link in the left navigation bar.
8. Choose **Development Environment (tools, SDV, EAP)** from the **Product Type** list.
9. If this is a software or license-related issue choose **Intel® XSLT Accelerator** from the **Product Name** list.
10. Enter your question and complete the fields in the windows that follow to successfully submit the issue.

Please follow these guidelines when forming your problem report or product suggestion:

1. Describe your difficulty or suggestion:
For problem reports please be as specific as possible, so that the problem can be reproduced. Please include a small test case if possible.
2. Describe your system configuration information:
Be sure to include specific information that may be applicable to your setup: operating system, name and version number of installed applications, and anything else that may be relevant to your concern.

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This product includes software developed at The Apache Software Foundation (<http://www.apache.org/>).

Portions of this software were originally based on the following:

- IBM Corporation., <http://www.ibm.com>
- Sun Microsystems., <http://www.sun.com>
- World Wide Web Consortium, <http://www.w3.org>
- eXpat project, <http://www.libexpat.org/>
- dtoa module, <http://src.opensolaris.org/source/xref/sfw/usr/src/cmd/gcc/gcc-3.4.3/libjava/java/lang/dtoa.c>
- Google Open Source threading tools, <http://sourceforge.net/projects/goog-perftools>

Please read the different LICENSE and NOTICE files present in the root directory of this distribution.

Attribution to Intel Corporation

As referenced in the End User License Agreement, attribution requires, at a minimum, prominently displaying the full Intel product name (e.g. "Intel® XSLT Accelerator 1.1 for Java* Environments") and providing a link/URL to the Intel XML products homepage <http://www.intel.com/software/xml> in both the product documentation and the website.

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