Product Description for SaxonC-PE (Professional Edition)

Version 13 released May 2026

This document lists the features provided by SaxonC 13 Professional Edition (Saxon-PE), for C/C++, PHP and Python.

This document does not form part of any contract unless expressly incorporated.

Language Support

1. XSLT (Transformation Processing)

1.1 XSLT 3.0 Basic Processor

Provides all mandatory features from the XSLT 3.0 specification (including try/catch, iterate, accumulators, maps, named modes, content value templates, and extended patterns, as well as features retained from XSLT 2.0).

1.2 XSLT 3.0 Serialization

Provides the serialization feature: specifically, the ability to convert the result trees produced as output of an XSLT transformation to lexical XML, or other formats including HTML, JSON, and plain text, under the control of serialization parameters defined in the stylesheet or via an external API.

1.3 XSLT 3.0 Compatibility

Provides XSLT 1.0 compatibility mode as defined in the XSLT 3.0 specification. If a stylesheet specifies `version="1.0"`, this causes certain constructs to behave in a way that retains the XSLT 1.0 behavior.

1.4 XSLT 3.0 Dynamic Evaluation

Provides use of the XSLT 3.0 instruction `xsl:evaluate`, which allows dynamic evaluation of XPath expressions.

1.5 XSLT 3.0 XPath 3.1 Feature

Provides full use of XPath 3.1 features, including XPath 3.1 functions, and maps and arrays.

Note: Saxon supports XPath 3.1 unconditionally in XSLT 3.0 stylesheets, it does not offer a processing mode in which XPath is restricted to version 3.0.

1.6 XSLT 3.0 Higher-Order Functions

Provides higher-order functions: specifically, the ability to use functions as values, including dynamic function calls, inline functions, partial function application, and the standard higher-order functions defined in the XPath 3.1 function library.

1.7 XSLT 4.0 Extensions

Provides many features from the draft XSLT 4.0 specification. Generally, Saxonica aims to avoid making incompatible changes except in major releases. But since the 4.0 features are not yet entirely stable, this policy does not apply: the aim instead will be to respond rapidly to changes in

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the developing specification. Maintenance releases in the 13.x series may therefore reflect changes in the draft specifications.

Optional features not provided: XSLT 3.0 Schema Awareness, XSLT 3.0 Streaming.

For more details see: XSLT 3.0 conformance.

Relevant W3C Specification: XSLT 3.0 Recommendation (08 June 2017).

2. XPath

2.1 XPath 3.1 Basic — Provides all XPath 3.1 features which do not require schema-awareness or higher-order functions. This includes an implementation of maps and arrays, and support for JSON, as well as language constructs retained from earlier XPath versions.

2.2 XPath 3.1 Higher-Order Functions — Provides higher-order functions: specifically, the ability to use functions as values, including dynamic function calls, inline functions, partial function application, and a library of built-in higher-order functions.

2.3 XPath 4.0 Extensions — Provides many features from the draft XPath 4.0 specification. Generally, Saxonica aims to avoid making incompatible changes except in major releases. But since the 4.0 features are not yet entirely stable, this policy does not apply: the aim instead will be to respond rapidly to changes in the developing specification. Maintenance releases in the 13.x series may therefore reflect changes in the draft specifications.

Optional features not provided: XPath 3.1 Schema Aware.

For more details see: XPath 3.1 conformance.

Relevant W3C Specification: XPath 3.1 Recommendation (21 March 2017).

3. XQuery

3.1 XQuery 3.1 Minimal Conformance — Provides Minimal Conformance (including try/catch and "group-by", as well as language features retained from earlier XQuery versions) as defined in section 5 of the XQuery 3.1 specification.

3.2 XQuery 3.1 Modules — Provides the Module feature, which allows a query to be made up of multiple modules.

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3.3 XQuery 3.1 Serialization — Provides the Serialization feature. This allows the output of a query to be serialized as lexical XML, or in other formats including HTML, JSON, and plain text, under the control of serialization parameters contained either in the query itself, or supplied externally.

3.4 XQuery 3.1 Higher-Order Functions — Provides the Higher-Order Function feature. This provides the ability to use functions as values, including dynamic function calls, inline functions, partial function application, and a library of built-in higher-order functions.

3.5 XQuery 4.0 Extensions — Provides many features from the draft XQuery 4.0 specification. Generally, Saxonica aims to avoid making incompatible changes except in major releases. But since the 4.0 features are not yet entirely stable, this policy does not apply: the aim instead will be to respond rapidly to changes in the developing specification. Maintenance releases in the 13.x series may therefore reflect changes in the draft specifications.

Optional features not provided: XQuery 3.1 Schema Aware, XQuery 3.1 Typed Data, XQuery 3.1 Static Typing, XQuery Update 1.0.

For more details see: XQuery 3.1 conformance.

Relevant W3C Specification: XQuery 3.1 Recommendation (21 March 2017).

Performance Features

4. Import stylesheet packages

Allows the importing of stylesheet packages in compiled form. Possible with all editions provided the package only uses features available in that edition. Note that this edition does not provide the ability to create compiled stylesheet packages.

For more details see: Compiling a stylesheet.

5. Optimizer (Basic)

The Basic optimizer provided with all Saxon editions provides a wide range of static and dynamic optimizations including full pipelining of list operations, lazy evaluation of variables, elimination of redundant sorting operations, etc.

6. Reading W3C schemas and DTDs

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The W3C web server routinely rejects requests for commonly-referenced files such as the DTD for XHTML, causing parsing failures. In response to this, Saxon now includes copies of these documents within the issued JAR/DLL file, and recognizes requests for these documents, satisfying the request using the local copy.

Extensibility

7. EXSLT extension functions

A selection of EXSLT extension functions are provided (in the modules Common, Dates and Times, Math, Random, and Sets), as listed in the documentation.

For more details see: EXSLT extensions.

8. EXPath extension functions

A selection of EXPath extension functions are provided (in the modules Archive, Binary, and File), as listed in the documentation.

For more details see: EXPath extensions.

9. User-defined extension functions (C++, PHP and Python)

Ability to access existing C++, PHP and Python functions dynamically.

For more details see: .

10. Saxon extension functions (Basic)

Extension functions, as listed in the documentation, in the Saxon namespace. The Basic level excludes extension functions that depend on streaming or schema-awareness.

For more details see: Saxon extension functions.

Localization

11. Formatting numbers in English

Numbers can be formatted as words in English.

For more details see: Formatting numbers.

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12. Formatting dates in English

Dates can be formatted as words in English.

For more details see: Formatting dates.

13. Sorting and collations using platform locales

Support for sorting and comparison of strings using the Unicode Collation Algorithm uses the collation facilities available directly from the JDK.

For more details see: Sorting and collations.

Interfaces and APIs

14. C++ API

SaxonC's interface for processing XSLT, XQuery, and XPath, on C++.

15. PHP extension

Interface module that allows SaxonC to be invoked from PHP applications.

16. Python extension

Interface module that allows SaxonC to be invoked from Python applications.

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