

XF Rendering Server 2008

Using XSL Formatting Objects for Producing and Publishing Business Documents

Abstract

IT organizations are under increasing pressure to meet the business goals of their companies. This challenge can be particularly daunting considering the difficult tasks you have to face every day.

Companies have multiple document systems, and it seems like each department has its own document requirements, while several activities involve a greater degree of cross media publishing, in order to include not only printed media, but also CD-ROM, Web and other electronic forms.

In addition, the pace of product development continues to accelerate while the old processes cannot keep up, and production of multilingual document is becoming increasingly important. Organizations are under pressure to deliver information faster, in multiple formats, while reusing information across multiple documents.

Consider these aspects of publishing as they relate to your own organization and think where you are today and where you will be next year or in five years.

- Does your current document production solution support all your formatting requirements?
- Will it support the requirements next year and in five years?
- Future Formats (Office 12, XPS just to name a few)
- How many products can you choose between?

There are several factors which must be considered when you want to change the documents producing process.

First of all you must have an excellent quality of the final result. This thing cannot be realized with the manual intervention of an operator and it must be an automated process. The effect of the automation is not only the creation of a repeatable process, but also, the liberation of human and material resources which can be reinvested in other aspects of the process.

To be up to date and in the same to remain in competition, you are searching to accomplish some goals:

- High quality, consistent output → branding
- Automated production of information products → reduced cost
- Supports re-purposing of content → single source publishing
- Supports the investment in content rather than presentation → separation of content from formatting
- Independent of any particular application → PDF
- Availability of resources → non proprietary skills, languages (people skills, free internet training)

But you are probably wondering how to get from the data to the output without using proprietary solutions. The answer to this problem is certainly **XSL**.

It has always been difficult to produce high quality print output from XML. XSL brings the ability to produce quality printed output within reach of many more organizations considering the benefits of structured information.

Open Standards

When referring to XSL and XML we are talking about Open Standards. Is well known that today, all vendors claim support for XML and the requirements and the interconnection to data & business flow differ per department. This is where the open standards intervene: they facilitate adoption for solution.

The consolidation will be easier with Open Standards because they are future proof.

A little bit of the history of XSL

Laying out information products involves two processes: "transformation" and "presentation". The focus of W3C standards development became "transformation", due to its application to data interchange issues. XSL was split into two parts, "XSL Transformations" (completed March 1999) and "XSL Formatting Objects" (completed October 2001).

XSL Transformations (XSLT)	Extensible Stylesheet Language - Formatting Objects (XSL; XSL-FO)
Is a transformation language designed for writing filters that converts one XML document to another.	Is a set of XML elements (formatting objects) and associated XML attributes (styling properties) that define the input to a formatter.

XML

First and foremost, XML is a structured way to represent data. Because it is a non-proprietary, open-platform format, XML succeeded not only to obtain a huge vendor support, but also to be quoted as "the format of the future". Its main benefits are a reduced complexity and increased consistency which in turn will reduce redundancy and maintenance.

The XML principles are:

- Making the difference between the form and the logical structure
- A standard and simple language for the data description

In order to appreciate XML, it is important to understand why it was created. XML was created so that richly structured documents could be used over the web. The wide range of features allows the creation of almost all kinds of documents, including financial reports, invoices, purchase orders, contracts, government forms, tax forms, checks, bank statements, product catalogs and many more.

XML, considered being the "bridge" between divers systems and requirements, has two main characteristics.

First, the extensibility and structured nature of XML allows it to be used for communication between different systems, which otherwise would be unable to communicate. While this sounds simple, the magnitude and impact of this benefit is tremendous.

With the use of XML, you can now communicate not only between internal computing systems but also external systems (vendors, customers, partners, etc.) using a common technology regardless of the platforms and technologies used for each independent system. Besides the obvious benefit of information sharing and system interoperability, knowledge transfer between your different computing teams becomes easier as well. Since XML has a clearly defined set of standards, people from one team can easily understand and work with information provided by their colleagues.

Being extensible, XML provides the facility to define tags and the structural relationship between them. As a result, developers can create their own customized tags in order to define, share, and validate information between computing systems and applications. Since everything a developer creates adheres to the XML criteria and standard, it allows for customization without many of the usual perils of customization (such as a lack of interoperability and extensibility).

Second, simplicity. Information coded in XML is easy to read and understand, plus it can be processed easily by computers. XML facilitate production of multilingual documentation which is important for the internationalization of applications. It offers emphasis on interoperability and easy processing, as well as a large set of development tools. This new standard supports data exchange, integration and in the same time automated processing of content and structure.

XML protects your data investment for the long term and separates the content of information from the appearance providing greater flexibility in new data uses and outputs. Enables sophisticated searching, offers rapid deployment as well as lower costs for multiple output formats and accelerates time-to-market for new products.

XSL

On the other hand, XSL can be used to define how an XML file should be displayed by transforming the XML file into a format that is recognizable to a browser. In other words, XSL solves the business problem of quality print output from XML for documentation by providing a way to manipulate and present XML data. It can be used effectively in different areas of a publishing or a business solution, therefore it has excellent marketing.

XSL addresses both transformations and presentations, provides the necessary functionality and has growing vendor support. It can also add completely new elements into the output file, or remove elements. It can rearrange and sort the elements, test and make decisions about which elements to display, and a lot more.

Regarding XSL-FO, it represents the part of XSL that deals with how structured information should be presented.

These two new technologies, XML and XSL are complementary.

XML	XSL
<ul style="list-style-type: none">▪ XML is a structured way to store data▪ Non-proprietary, open platform format▪ Huge vendor support▪ Reduces redundancy▪ Removes complexity▪ Reduces maintenance▪ Promotes reuse▪ Improves accuracy and consistency▪ Easy to parse▪ Easy to debug▪ "The format of the future"	<ul style="list-style-type: none">▪ XSL solves the business problem of quality print output from XML for documentation▪ Has excellent marketing▪ Can be used effectively in different areas of a publishing system or a business solution▪ Provides the necessary functionality▪ Has growing vendor support▪ Addresses both transformations and presentation▪ Is an open standard

XSL-FO

XSL-FO is a very rich format, it has an easy syntax and it's easy to modify.

XSL is batch, widespread and designed for print and online media. Through the use of extensible style language, XSL, developers can easily separate content from formatting instructions. In this way, XSL files act as templates, allowing a single stylesheet to be used to format multiple pages of information.

Even more powerful is the ability to use several of these templates to define formatting of the same content for multiple distribution channels.

XSL-FO supports high-quality printing and offers: multiple column layouts, formatting conditional on document content, placement of footnotes, running headers etc. into margins, automatic generation and cross-reference of page numbers.

SVG

SVG (Scalable Vector Graphics) is an XML based grammar for describing rich graphical information in a vector format, with structure. It is based on drawing commands instead of bitmaps, it is fast to transfer and modify and allows zooming, panning etc.

Visually Stunning Documents are build using an impressive array of features provided by XSL-FO and SVG technologies. Among this we can name: portrait and landscape pages, multiple page sizes and writing directors, headers/footers, generated page numbering, graphics, floating areas, hyphenation and justification, multiple columns of text on a page, Unicode, re-sorting items for output, tables, including running heads, width and column spans, widow/orphan control, recto-verso pages.

XF Rendering Server 2008

Benchmarked for scalability, speed, and performance, **XF Rendering Server 2008** is a fully enterprise-class product, providing core support for Extensible Markup Language (XML) and Web services.

XF Rendering Server 2008 is a highly scalable, enterprise class rendering product. It can be used to automate the creation of electronic documents like technical manuals, brochures, catalogs and marketing materials, invoices, statements, business reports containing charts and graphs, by dynamically generating them from XML.

XF Rendering Server 2008 supports two major industry standards: XSL-FO (Extensible Style Language Formatting Objects) describing how an XML document should be formatted for a variety of media as well as SVG (Scalable Vector Graphics) used to describe two-dimensional vector and mixed vector/raster graphics in XML.

XF Rendering Server 2008 offers some of the most advanced features for products in its class, including:

- Support for multiple input formats including **XSL-FO, SVG, WordML, DocX, HTML** and **xChart**
- Generation of **PDF, XPS, Postscript, HTML, JPEG, TIFF, AFP, INX** and more from one single source of content
- Professional publishing features including support for complex page layout and pagination, color profiles, **RGB, CMYK** and spot colors, vectorial drawings and complete typesetting control
- The option of saving documents in the **PDF/A** format
- Tagged PDF support for accessibility
- Support for True Type and Type 1 Font Embedding in the generated AFP output
- Accessibility from a multitude of development environments: C++, VB, ASP, .NET, Java
- Ability to render SVG objects embedded into XSL. This allows you to create rich graphics embedded in your document, with an excellent quality for both viewing and printing
- A full set of extensions not covered by the current XSL-FO standard (some part of the upcoming CSS3 and XSL-FO 1.1) like rounded borders, shadows, underline styles, PDF bookmarks, change bars, and several specialized layout elements
- Capability to manipulate the PDF input and produce high standard output files, which can be opened and edited in most applications (office software, publishing systems etc.); PDF encryption
- Scalable server architecture that can run across multiple CPUs, meeting the high-performance needs of your applications.

Benefits

The benefits of implementing your document production using XF Rendering Server are overwhelming:

- Complete interoperability of both content and style across applications and platforms
- Freedom to choose your own view into content
- Easy construction of powerful tools for manipulating content on a large scale
- Non-proprietary, open platform formats
- True international publishing across all media
- Lower costs

The prediction regarding this new technology is that XSL-FO usage will increase in the industry; the value of FO-based composition is clear and compelling:

- lower start-up cost
- lower maintenance cost
- lower risk of proprietary lock-in
- strong and active development and user community

Conclusions

XSL brings the ability to produce quality printed output within reach of many more organizations considering the benefits of structured information.

XSL-FO is the next generation markup language for print-ready document.

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Visit [XF Rendering Server 2008](#) to find out more information about the product.

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