

COREL
Smart Graphics
STUDIO

a white paper from Corel Corporation

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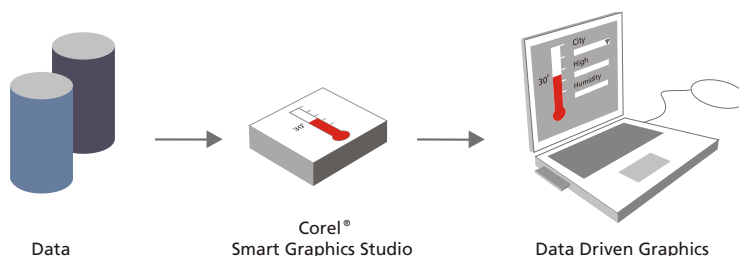
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Introduction

Enterprises need rich, interactive, and *open standard* graphical interfaces to take full advantage of today's distributed computing environment. Such interfaces draw information from disparate sources and deliver them to multiple devices in a visual format that's easy to understand and act on.

Corel® Smart Graphics Studio provides a platform for building enterprise-class graphical applications that are interactive, scalable, based on open standards, and capable of consuming Web services, databases, and legacy systems. Termed smart graphics¹, this technology improves enterprise decision making and communication of data and content.



Leveraging W3C² open standards, such as XML, XSLT and SVG, and JavaScript™, Corel Smart Graphics Studio is an enterprise-class tool for developing graphical applications. It gives enterprise application developers control over design, development, and deployment of their applications. Corel Smart Graphics Studio frees developers to concentrate on building more sophisticated applications, saving time and money for the enterprise.

- 1 For more information on smart graphics, please visit www.corel.com/smartgraphics. Be sure to read the white paper: *Corel Smart Graphics ...and the value of XML-based graphical applications* for a summary on the business value of open standard smart graphics.
- 2 The W3C (World Wide Web Consortium) is an open standards group dedicated to developing interoperable technologies to develop the Web to its full potential. W3C collaborations are responsible for such recognized standards as CSS, HTML, P3P, XML, XSL and Web Services.

Corel Smart Graphics Studio consists of the following:

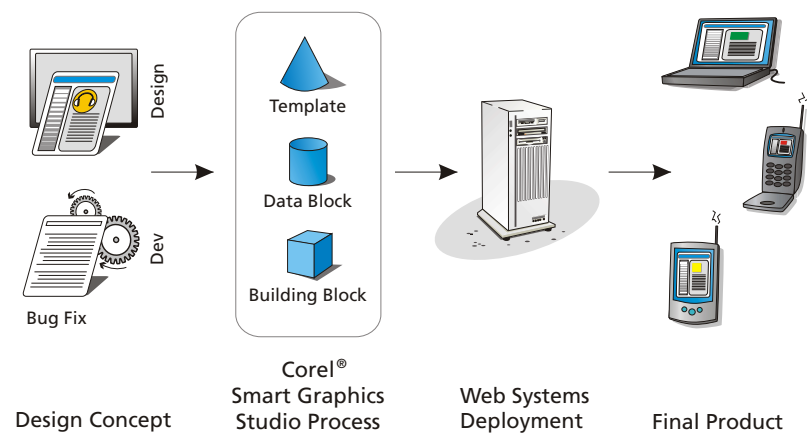
- a rapid development environment that provides enterprise application developers with the power to create smart graphics. It enables the creation of complete interfaces that include dynamic behaviors and data-driven elements.
- a high performance server for management and transformation of application data and images. It retrieves information from multiple data sources and runs seamlessly within your existing Microsoft server environment. It greatly reduces the time required to build and deploy applications.
- an SVG viewer that provides superior rendering capability and can be integrated into applications.

Attempts to solve these problems using proprietary solutions are expensive and generally unsuccessful. The adoption of a proprietary solution (or a custom-binary solution) creates barriers to reusing and extending content and introduces the risk of investing in dead-end technologies. Enterprises that lock themselves into these solutions lose the flexibility to share information with potential partners. There is a need for a development platform that allows enterprises to take advantage of open standards while inexpensively developing custom solutions that meet their needs.

Solution: Corel® Smart Graphics Studio

Corel Smart Graphics Studio is a visual environment for creating enterprise-class graphical applications with XML, SVG, and JavaScript™, all open standards supported by multiple software vendors and industry consortiums. It allows enterprise application developers to control the entire design-to-deployment process with an integrated set of tools.

The solution



Workflow: separating presentation, logic, and data

Corel Smart Graphics Studio consists of several components: a design/development environment, a server, and an SVG viewer.

Enterprise graphical applications consist of presentation, logic, and data.

With Corel Smart Graphics Studio, workflow is optimized by separating the presentation, logic, and data so these elements can be developed simultaneously. You can change any of these elements without having to re-work other elements.

Presentation: Design graphical interfaces consisting of vector graphics, bitmaps, and traditional UI elements, including buttons, list boxes and text boxes. You can create simple vector graphics in Corel Smart Graphics Studio or bring in SVG graphics drawn in other vector illustration applications, such as CorelDRAW®. Corel Smart Graphics Studio lets you design interfaces in menu-driven or code views.

Logic: Add pre-made scripts and behaviors to your interface, convert graphics into data-driven templates, apply logic to create parametric relationships, and include functions that manipulate data.

Data: Map interface templates to external data samples and determine how data will be processed by the server at run-time

Since Corel Smart Graphics Studio is based on open standards, it allows seamless integration with other tools and technologies. While the integrated solution provides significant cost, quality, and time advantages to the enterprise, any element of the solution can be substituted with another standards compliant tool.

Components: Corel® Smart Graphics Studio



Corel® SVG Viewer

The Corel SVG Viewer is a Web browser plug-in that lets you view and interact with the SVG graphics as you develop your application interface. The Corel SVG Viewer offers:

- unparalleled rendering capability
- backwards compatibility and standards compliance
- extensibility for integration into enterprise applications.

Corel® Developer SG™

Corel® Developer SG™ includes three components: the Application Designer, the Template Builder and the Data Mapper.



Application Designer

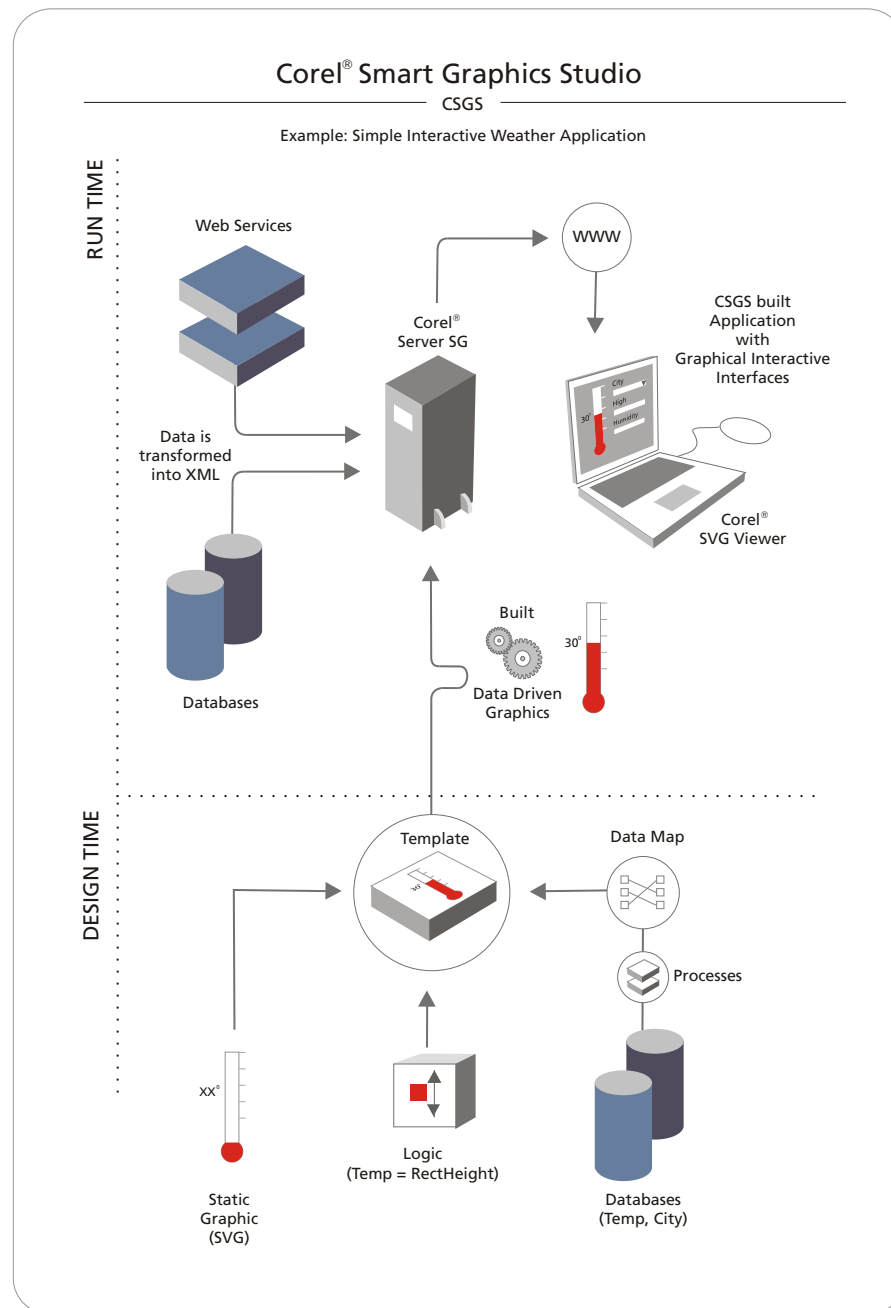
With Corel Smart Graphics Studio, you can easily develop SVG designs into data-driven applications and functional interfaces.

The Document Editor lets you focus your efforts on designing and laying out client interfaces while working in a visual development environment. The underlying code is automatically created for you. However, you can also edit the code manually.

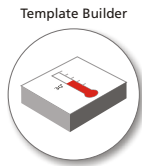
SVG assets can be created in CorelDRAW, or any application that outputs open-standard-compliant SVG. This includes simple assets such as arrows, buttons, and charts up to complex vector graphics used in mapping, facilities management, and electronic technical manuals.

You can apply behaviors to your interface using built-in JavaScript libraries with code for common functionality and tasks. For example, you can create rollovers, list boxes, and clickable buttons.

Your custom applications can contain both “smart” vector graphics and static raster graphics such as JPEGs and GIFs.



This picture shows how the Corel Smart Graphics Studio components are integrated into a workflow. It shows the workflow that a designer would use to transform a static graphic of a thermometer into a smart graphic driven by data from a Web service.



Template Builder

The Template Builder allows you to prepare SVG documents with dynamic objects for data mappings by:

- specifying the nature of required data input(s)
- assigning advanced functionality, such as parametrics or logic, to objects in your interface design.

Once you separate objects from the general presentation, you can apply logic and connect them to external data sources.

The resulting dynamic objects can be reused by exporting them as XSLT, an open World Wide Web Consortium (W3C) standard for transforming XML documents (into SVG in this case).



Data Mapper

With the Data Mapper, you define the connections between the inputs of an SVG template and an XML source by:

- selecting the SVG elements to map
- specifying the sample XML file to which the SVG template will be mapped
- connecting the inputs of the SVG template to the XML sample file (through logic, if required)

Here, smart graphics are mapped to external data sources by referencing a sample of the data source.

You can also view how the data effects the dynamic objects in your visual interface as you design it.

Like the dynamic objects, you can save your data mappings as re-usable assets or export as XSLT.



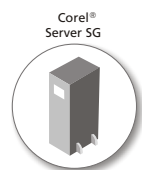
Corel® Process Builder

You can visually build Corel Server SG processes for binding data sources and generating graphics on the fly without having to code complex ASP or JSP pages.

You can bind graphics with multiple data sources. Examples of data sources include Web Services (SOAP), ODBC databases, XML documents, etc.

You can also assign additional processing of a Smart Graphic application at run-time. For example, advanced image server technology that tiles large raster images into small downloadable pieces, can be implemented in Corel Smart Graphics Studio.

Built-in modules let you easily specify how data and images are processed at run-time. Corel Smart Graphics Studio includes a library of modules so you can provide highly customizable outputs on the Web at run-time or through batch processing.



Corel® Server SG™

Corel® Server SG™ is a high performance platform for the management and transformation of application data and images. Processes created in the Process builder are executed on the Server. Corel Server SG is available in both developer and enterprise editions.

Modules perform complex functions on the data and graphics. They are configured and bound in a sequence which is called a process. You don't need to know complex code or proprietary scripting languages, you only need to visually describe what the modules need to do. For example, they can:

- launch a Web application
- connect to data
- bind the data to the interface
- deliver the visual interface to the end user.

Those who wish to do their own advanced scripting have the option of creating custom modules and deployments.

The Corel Server SG provides:

- valuable server management tools such as analysis, queuing, and caching
- integrated support for Web Services.
- connector architecture which allows you to communicate to it from native Java™, .NET, or COM applications.

Summary of benefits

Corel Smart Graphics Studio is a visual development environment that lets developers create enterprise-class graphical applications and interfaces without having to spend valuable time learning programming languages and writing thousands of lines of code.

| Problem | Solution |
|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| It's difficult to make sense of all the information that's available. | Corel Smart Graphics Studio allows you to easily create enterprise-class data-driven graphics that extract data from diverse sources and deliver it in an easy to understand visual interface to multiple devices and platforms. |
| Current tools make it difficult and expensive to create and maintain graphical interfaces. | <p>Corel Smart Graphics Studio lets designers create enterprise graphical applications and interfaces without having to learn programming languages. Because XML code is being generated in the background by Corel Smart Graphics Studio it can always be customized by a developer.</p> <p>Corel Smart Graphics Studio improves workflow by separating data, application logic, and presentation. There is no need to re-engineer an application if you make a change to the data.</p> <p>Corel Smart Graphics Studio uses smart graphics which can be dynamically updated by data-driven, server-side processes.</p> |
| Proprietary solutions are limiting. | <p>Corel Smart Graphics Studio is based on open standards and provides interoperability. It frees companies from the limitations of proprietary technologies. Information and graphics can be shared seamlessly with other enterprise software.</p> <p>Corel Smart Graphics Studio produces smart graphics that are fully extensible to meet the future needs of the enterprise.</p> |

Corel Corporate Profile

Founded in 1985, Corel Corporation (www.corel.com) is a leading technology company specializing in content creation tools, business process management and XML-enabled enterprise solutions. The company's goal is to give consumers and enterprise customers the ability to create, exchange and instantly interact with visual content that is always relevant, accurate and available. With its headquarters in Ottawa, Canada, Corel's common stock trades on the Nasdaq Stock Market under the symbol CORL and on the Toronto Stock Exchange under the symbol COR.

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