

Reporting Services Futures: Report Authoring for Information Workers (BIN306)

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Enabling information workers to author, modify, generate, and share rich, data-driven reports using the tools that they are familiar with, is a key requirement for businesses today. We'll share some of the new capabilities that will be available with the next release of Microsoft SQL Server Reporting Services, including improved integration with Microsoft Office applications like Excel, Word, and SharePoint.

Part one – SharePoint Integration

Microsoft's Integrated BI offering is based on three major groups of platforms and technologies:

- Core BI Platform – Includes Integration Services, Relational Engine, Analysis Services and Reporting Services. Data can be consumed from a large variety of sources both Microsoft and non-Microsoft.
- End user tools and performance management applications – includes PerformancePoint Server and Office 2007 (especially Excel 2007).
- Delivery vehicle – based on SharePoint 2007 which provides the ideal environment for making available to users a large number of BI artifacts: reports, dashboards, analytic views, scorecards, plans, and much more. Besides delivering, SharePoint offers powerful search, collaboration, and content management functions.

Office Integration in SQL Server 2005 Reporting Services has the following key characteristics:

- SharePoint Integration (available starting with SQL Server 2005 Service Pack 2).
- Excel Rendering Extension - the Excel rendering extension is a layout renderer that generates a binary Excel file. It tries to preserve as much as possible from the Reporting Services formatting in the resulting Office file. It has support for some types of formulas as well as for collapsible outlines.
- CSV Rendering Extension – the CSV rendering extension offers the simplest way to send data to excel. Because it preserves no formatting at all it is sometimes referred as the data renderer.
- Delivery through e-mail

The SharePoint Integration Architecture for Reporting Services is based on components delivered in Service Pack 2. Before SQL Server 2005 SP2, SQL Server 2005 Reporting Services and SharePoint Server 2007 were two completely independent platforms. Each of them was communicating directly with its own set of databases (RS did it directly while SharePoint did it through the WSS object model). The first important thing brought by SP2 to Reporting Services was the WSS object model that was made available within Reporting Services. In addition to this, SP2 also brought a Security Extension component enabling Reporting Services to communicate with SharePoint as well as a Catalog Management module that enabled the SharePoint-based management of report definitions. On the SharePoint side the key element is the Reporting Services Add-in for Microsoft SharePoint Technologies. The add-in brings two major elements to SharePoint: the Report Viewer web part and the Report Management UI that enables us to perform the large majority of report management tasks directly from SharePoint sites.

Demo 1: SharePoint Integration

The demo shows the various features of Reporting Services integration in SharePoint: configuration settings, report management, parameter management, report delivery, and some more.

The key elements related to the Reporting Services and SharePoint Integration are:

- Seamless integration with Document Library (through a set of dedicated content types). SharePoint stores all the important components like report definition files, data sources, and report models. In addition to storage and management, some extra functionalities like collaboration, workflow, and versioning are made available to BI applications.
- Centralized UI for report management through SharePoint UI – all report-related operations (author, upload, manage, render, deliver) are performed through the SharePoint UI.
- Rich reporting experience – extra features available in SharePoint (templates, content types, filter web parts) enhance the reporting experience.

Part two – Future Office Integration in Microsoft SQL Server 2008

One of the new features in SQL Server 2008 Reporting Services is the Word Rendering Extension. The key features of the extension are:

- Supported in Word 2000-2007.
- Export any SSRS report to Microsoft Office Word.
- Exports to Word binary format.
- Table-based layout (as opposed to absolute positioning which is somewhat unnatural for Office documents, especially Word documents).

As BI solutions in general and Reporting Services in particular are getting in the daily life of an ever increasing number of users, tighter integration with the Office suite is also becoming more and more important. It turns out the better integration between Office and Reporting Services is currently a top priority for a large number of customers. These customers are looking for both an enhancement in the Reporting Services experience (preferably within Office) as well as for higher quality Office documents produced by the Reporting Services rendering extensions. In this context, higher quality means reports delivered in rich, data-driven Office document formats. More than that, since they are used to tools like Excel and Word, information workers would like to see them enhanced with report authoring functionality.

Part three – OfficeWriter technology

To meet the demands described above, Microsoft is currently integrating the OfficeWriter technology in to Word and Excel. The most important features of the OfficeWriter technology are:

- Entire report authoring lifecycle takes place in Office. Thus the information worker who is already familiar with this environment doesn't have to leave it in order to author reports.
- The authoring functionality is available as add-ins for Word and Excel.
- All file formats between Office 97 and Office 2007 are supported.
- The output preserves completely fidelity for both Word and Excel. More than that all Word and Excel features can be used aside the Reporting Services features.

Some of the key scenarios where the OfficeWriter technology can be used are:

- Creation of document-centric reports
- Mass delivery of documents
- Rich Excel reports
- Easy editing by end users
- Separation of data and layout duties

Demo 2: Excel Charts, Formulas, and Pivot Tables

The demo shows the key features of the OfficeWriter technology applied to Excel reports.

Authoring Reporting Services reports in Excel provides two major advantages:

- All Excel features are supported (pivot tables, formulas, charts, and many more).
- Most report tasks are done using standard Excel dialogs and techniques.

The key phases of the OfficeWriter rendering process are: report design in Word or Excel, report deployment to Reporting Services, and document generation. The interesting part thing here is that the published RDL report includes the Office template that is used to generate the final document. In other words, the RDL file stores multiple layouts that are interpreted by the appropriate renderers (either classic RDL renderers or the OfficeWriter renderers).

Demo 3: Word Purchase Order, Mailing Labels, and Form Letter

The demo shows the key features of the OfficeWriter technology applied to Excel reports.

Authoring Reporting Services reports in Word provides two major advantages:

- Enables new classes of document-based reports (purchase orders, legal forms, form letters, mailing labels, and many others).
- Uses standard Word constructs to define layout – merge fields are used to mark the places where data will appear and bookmarks define repeat blocks.

By being integrated with Reporting Services, all reports designed with OfficeWriter can take advantages of powerful server features like security, delivery services, and subscriptions. More than that, by using data-driven subscriptions, we are able to pump out large numbers of Excel and Word documents.

Part four: Office Report Design - Roadmap

Today, OfficeWriter for SQL Server 2005 Reporting Services is still available for purchase from SoftArtisans. In a future release of SQL Server, Microsoft is planning to integrate OfficeWriter into Reporting Services. Among the key objectives there are:

- Full RS integration
- Full Office integration (UI redesign, Office 2007 look and feel)
- Support for Report Builder
- Export to other formats (PDF, HTML, image)
- Workflow integration (especially easy setup of data-driven subscriptions).