

SQL REPORTING SERVICES FOR DATA ACQUISITION

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ABSTRACT

In the papers it is presented a way to make and use report models for data acquisition. Information workers throughout an organization need access to business data for timely and effective decision making. With a wide range of skills and expertise, these business users need an intuitive yet powerful tool to explore and find answers to critical questions without deep technical knowledge of corporate data sources.

A report model, in technical terms, is a metadata description of a data source and the relationships. First step is to analyze the needs of the users so you know what fields they are going to need in their reports. Providing too little information renders the reporting service useless, but providing too much information could eventually cause performance issues as more users access reports. The second step is to ensure you have the appropriate referential integrity in place. Having a series of reports running on a poorly normalized database or poorly designed Analysis Services cube will cause additional headaches.

The report model aids users in navigating and selecting the desired information from the underlying data source. Report Builder uses the report model definitions to automatically generate the source query for retrieving the requested data. In addition, model elements can be secured so that users only see data they have permissions to see.

Model Designer is the user application for defining, editing and publishing report models.

Modellers can launch the Model Designer and start designing directly against a data source or they can auto generate the model based on a set of predefined rules as the starting point for model design. Report Builder reports are just like any other Reporting Services report, once published, and leverage all of the viewing and management features of the reporting platform. Data sources can be: SQL Server 2005, SQL Server 2000, OLE DB, Oracle, ODBC, XML.

Keywords: Structured Query Language, Open DataBase Connectivity, data acquisition system, memory shapes materials, dynamic Data Exchange.

1. INTRODUCTION

An Internet browser can be opened by multiple users and second for the opportunities to export data to numerous formats [11]. But users also like their toys and want to manipulate the data many ways. So does it really do any good to publish reports on the server when they're going to take it and "do their own thing" to it? The answer is it depends on who's accessing the reports.

2. STUDY METHODOLOGY

2.1. Discussions

Data display and analysis from windows is offered by various toolkit used on distributed systems for test, mechanical and materials measurement and communication, however to supporting other third party windows application that can call DLL's data (dynamic link libraries) is send to a SQL database (Structured Query Language) mostly data sources are ODBC (Open DataBase Connectivity).

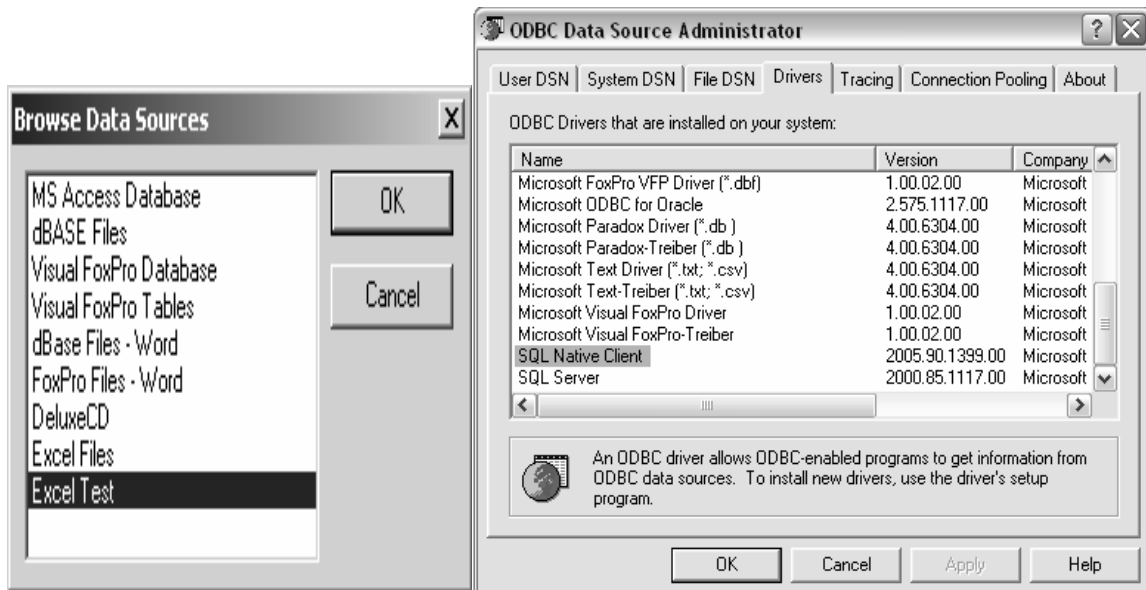


Figure 1: Data sources used for reporting: Excel data and SQL Native client when browsing ODBC data sources

3. EXPERIMENT DESIGN

DasyLab (data acquisition system laboratory) application - the tool utilized for extract the data – is easy to configure a DAP (data acquisition processor) board for higher performance application on Windows. The system allows users to make measurements of characteristics for Dynalloy memory shape materials. Also the user can control this from any Windows systems or can exercise monitoring remotely from any other windows systems.

3.1. Model

Data acquisition in DASYLab can be performed using 4 methods: Analog input, Internal sources, Intern quellen and Sound Driver. Our discussion object in this case is Intern Quellen. Signals can be received from DASYLab in different ways.

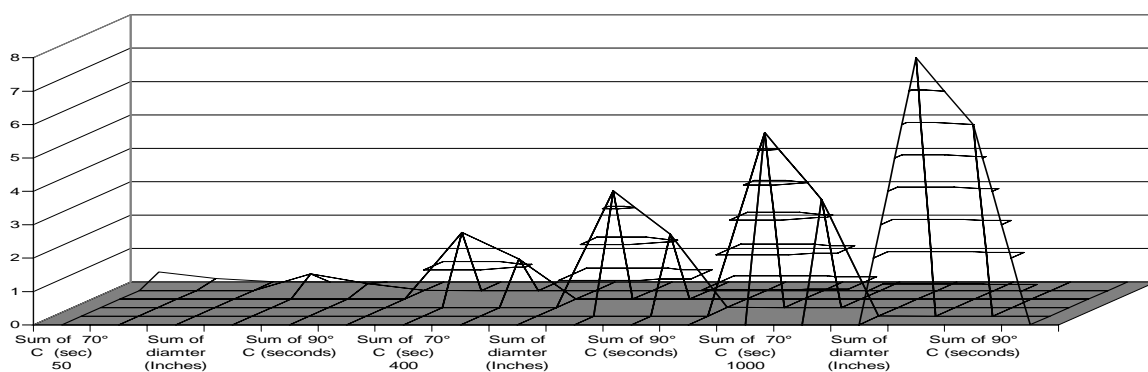


Figure 2. Example of the reporting dynalloy wire obtaining motion for billions of cycles using using DASYLab tools when acquiring data from Excell

The available signal sources starts with external sources, in the main time realized via data exchange with software, running simultaneously with DASYLab includes also sources as software solutions (ODBC or DDE- dynamic Data Exchange). After starting the DasyLab worksheet, it will write 100 samples into column A using the DDE.

Excel copies the data from column A into column B. It does not send a notification when a cell changes its value for cold link or DasyLab also writes continuously into cell R1C1 for warm link. Excel will send a notification that the cell change. DasyLab queries Excel every second to see if a cell was updated.

3.2. Rendering extensions

Excel rendering in some reporting platforms can tend to cause formatting problems [6]. This is due to the report design methods used in other tools. This allows for a great of flexibility but doesn't well into rows and columns. If a heading and its associated data item are misaligned by a couple of pixels, it is difficult for rendering extensions to determine that those two items should be aligned in a single column [1].

3.3. Performing

3.3.1. Implementation

Having a predefined number of reports available can help you keep the hardware resources from being overtaxed, but there are individuals in the organization that need the ability to create additional reports. This ability is provided through Report Models [4]. What it is in practical terms is so much more for a user's own little sandbox. But creating a Report Model is a multi-step process.

To deploy Report Manager and a report server on separate computers, you must run SQL Server setup twice, once on each computer [1].

Install the first report server instance in "install but do not configure" mode on an Internet-facing Web server. Choose only SSRS (SQL Server Reporting Services - make sure that Report Manager is included as a feature component). After setup is finished, disable the report server instance so that only Report Manager is available. You can use the SQL Server Surface Area Configuration tool to disable report server operations on this server, and/or you can remove the report/server virtual directory [1].

In SQL Server 2005, SSRS includes a Web.config setting that allows Report Manager to bypass the proxy server when sending requests to a local report server that is installed on the same computer. The Web.config setting is the System.NET defaultProxy network setting.

By default, defaultProxy is disabled in the Web.config file for Report Manager [8]. This is the recommended configuration when Report Manager and the report server are deployed together on the same computer.

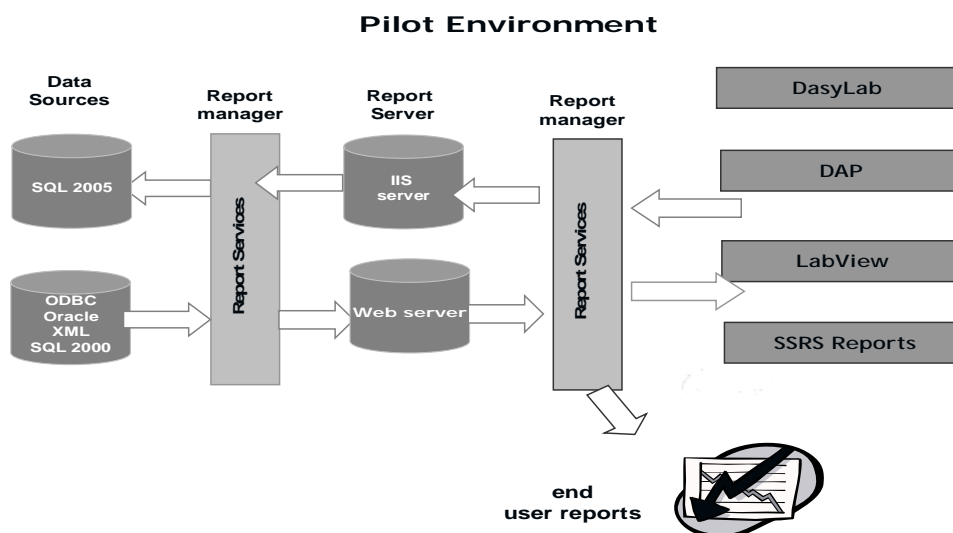


Figure 3. Example of data reporting when acquiring from Excell sources using DASYLab tools

4. RESULTS

With same input - dynalloy measurement 7 samples studied more than 80 hours over two month were performed in the experiment. Topics were SQL SSRS for data acquisition. When data acquisition was complete and all reports were displayed into following results (Figure1), (Figure2).

Each sample was measured one day using DasyLab application but exporting data into SQL database making use of DLL application future. The goal of this practice was to construct a database for Dynalloy study purposes. Using SQL Query Designer allows users to visually build SQL queries taking away some complexity of the language [10].

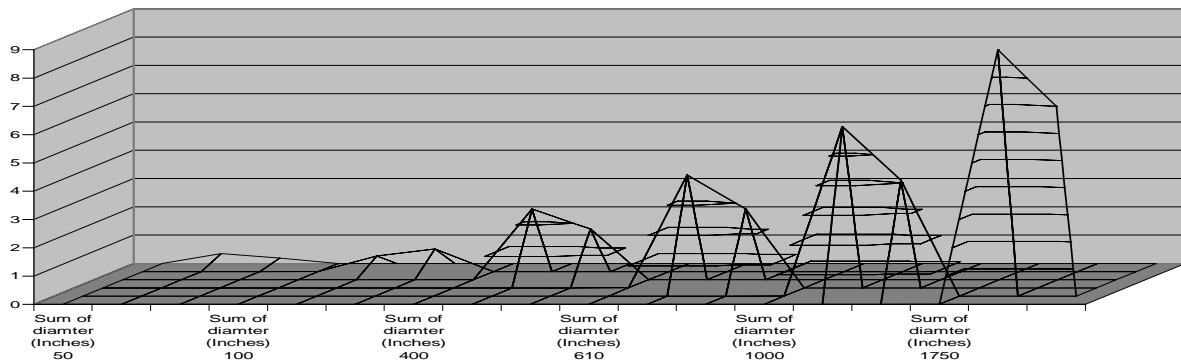


Figure 4. Example of the dynalloy wire when obtaining motion for several times for billions of cycles using SSRS for display

5. CONCLUSION

Data processing extensions can be created for about any type of data. There are also a number of data processing extensions supported by SSRS. Using SQL Server provider users can retrieve data from SQL Server tables, stored procedures and views, and user-defined functions [1]. The SQL Server managed provider is optimized to connect to SQL Server and also can take the advantage of SQL Query Designer.

6. REFERENCES

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