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Magazine

Office System OneNote

Making collaboration work

SQL Reporting Services

Getting the right answers

ISA 2004

Going beyond the next level
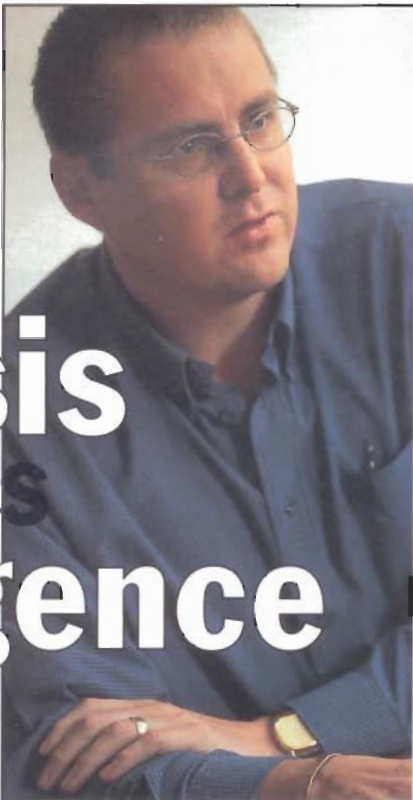
Microsoft Great Plains

Doing business with intelligence

Insights and answers for IT professionals

Analysis supports intelligence

IS Partners, specialists in SQL Server solutions, provides a completely revised system for reporting and analysis of massive volumes of information supplied by customer feedback devices.

Ryan Jamieson, IS Partners

Renier Botha, CFS

CFS (Customer Feedback Systems) is the company that supplies the familiar keypad customer feedback devices found in banks and retail outlets across the country. There is then the daunting task of storing and analysing all the data to supply the company's clients with a vast range of reports that enable business intelligence (BI) strategies to work effectively. CFS is based in South Africa with distributors in the United Kingdom, Australia, Middle East, South-East Asia and Zimbabwe . The business focuses on developing cost-effective, real-time customer feedback solutions for service organisations.

IS Partners has a solid track record as a Microsoft partner with the ability to create BI solutions-based on SQL Server and related Microsoft technology.

We spoke to Ryan Jamieson, BI developer at IS Partners, Quimby Bunce, partner engagement manager at Microsoft, and Renier Botha, general manager – technical at CFS.

Business needs

"The first need was to make it possible for CFS to draw both regularly scheduled reports as well as custom reports from the data being stored," says Ryan. "It was equally important to make the tools available to the CFS analysts so that they could supply their clients with meaningful business intelligence. This was why it was necessary to use the full range of abilities in SQL Reporting Services along with SQL Analysis Services. Windows Server is an integral part of the solution as data is being gathered from numerous locations across the country on a continuous basis."

"Currently, we are running about 23 separate databases – basically, one per customer – which are all running on SQL Server 2000," says Renier. "For analysis, the data are pulled into a central data warehouse at our head office where we build the cubes, using SQL Analysis Services, to generate whatever reports are required.

"Our devices collect information, store it in the System Controller hardware and send it through to our Data Hosting Server using dial-up or other Internet connections. From there it goes straight into the database. Even using a dial-up, it typically only takes about 20 seconds to upload an entire day's data from a device. Our present system is independent of the client's IT infrastructure. We have had the new SQL solution successfully in place for several months now."

"In fact, we were running the beta version of Reporting Services during the proof of concept phase," says Ryan. "Now, we are running the RTM version and there is a notable increase in performance. The physical charting is also much improved. Some of this results from deploying SP1, which is already available, although we also ran that in beta initially. This is really a 'bleeding edge' implementation."

"We were pleasantly surprised to have such success even with the beta versions," says Renier. "Of course, there appears to be a higher
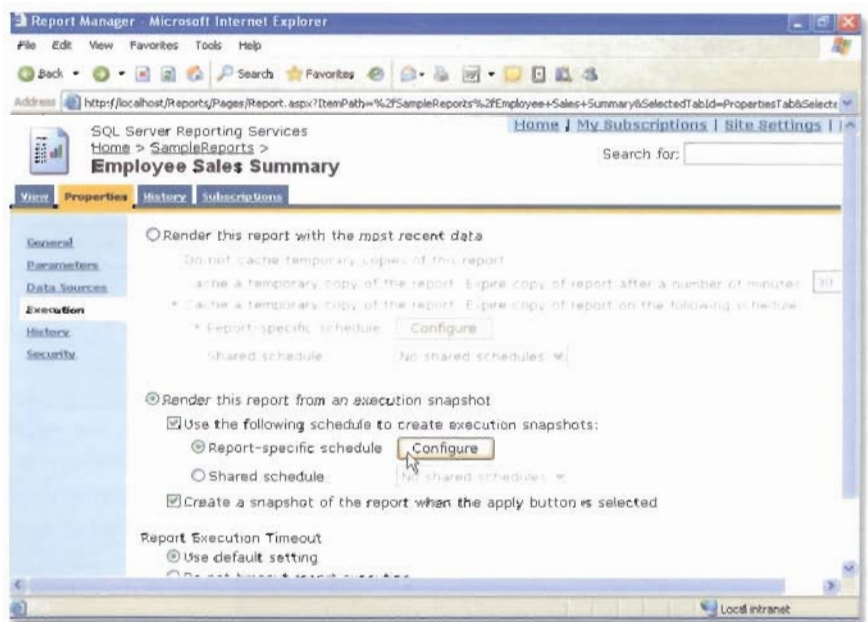
> **"It is also a very good reference for the many customers who have yet to find out the abilities of SQL Reporting Services, which is still something of a 'best-kept secret' in the SQL technologies."**

risk associated with this approach and the conventional 'wisdom' has always been to wait for SP 1 before deploying live in a production environment. Using the beta, however, we still achieved a 100 percent solution with maybe 10 percent hiccups at worst."

"This was a good demonstration of the partner model," says Ryan. "We were able to see value on the product

Web interface

Feature case study

very early in its life cycle. It is also a very good reference for the many customers who have yet to find out the abilities of SQL Reporting Services, which is still something of a 'best-kept secret' in the SQL technologies."

"Comparing it to other products, it is obvious that Microsoft did its homework in developing Reporting Services," says Renier. "In terms of performance, this solution is 10 times faster than the common

this solution, we had proper BI and data warehousing techniques in place which created great benefits for the front end."

"Going ahead, this strategy means that reports can be generated by users, rather than being labour-intensive requests that are put through to the IT department," says Quimby.

"The whole focus of the development was to make it modular," says Renier. "This helped us eliminate the

"Another reason for the modular approach is that this solution will not remain local," says Ryan. "CFS intends to use it internationally and the design has to be easy to understand and implement."

"This is a mistake that many companies make in the process of developing the set of reports they need," says Renier. "There can be as many as 500 different reports but, using a modular solution, those reports can be generated more cost-effectively from a far smaller number of back-end processes, rather than each built as separate items. This solution delivers about 500 reports – emailed to customers, with graphics – in the space of only about 20 minutes."

> "Even in the beta version, SQL RS was adding value and any company that deploys it now – subsequent to the release version and SP1 – would probably be up and running within a couple of months."

alternatives. A lot of that is contributed by running alongside Analysis Services."

"One point worth noting is that SQL RS is a very easily accessible tool and it is important to make sure that the back-end infrastructure supports efficient use," says Ryan. "If it were connected to a low-performance database, the performance would obviously be affected. In the case of

need for high skill sets when generating reports by making sure that, whatever information was needed for a report could be put together from the relevant parts of the analysis cubes or the SQL database itself. This was far easier than we anticipated and we have virtually no need to involve our Visual Studio developers in the day-to-day running of the solution."

Training

"Educating users to get the best out of the solution is an important factor," says Renier. "Although the front end is very user-friendly, with extensive 'drag and drop' capabilities, there is still a level of programming awareness that is needed.

"It goes without saying that, as with all BI systems, efficient use of the tools still has to be supported by specialised developer skills at some point. We were pleased to see that this aspect was less of a burden than expected. We can handle at least 80 percent of the report generation in-house and, for the remainder, can call in the outside experts when needed.

"Most of our training took only five days to achieve. The first part – covering both an introduction and overview of advanced features – was provided by IS Partners. Then there were an additional two days of showing users the customised, CFS approach to reporting. In the end, with less than two working weeks of training, we will have achieved the goal of
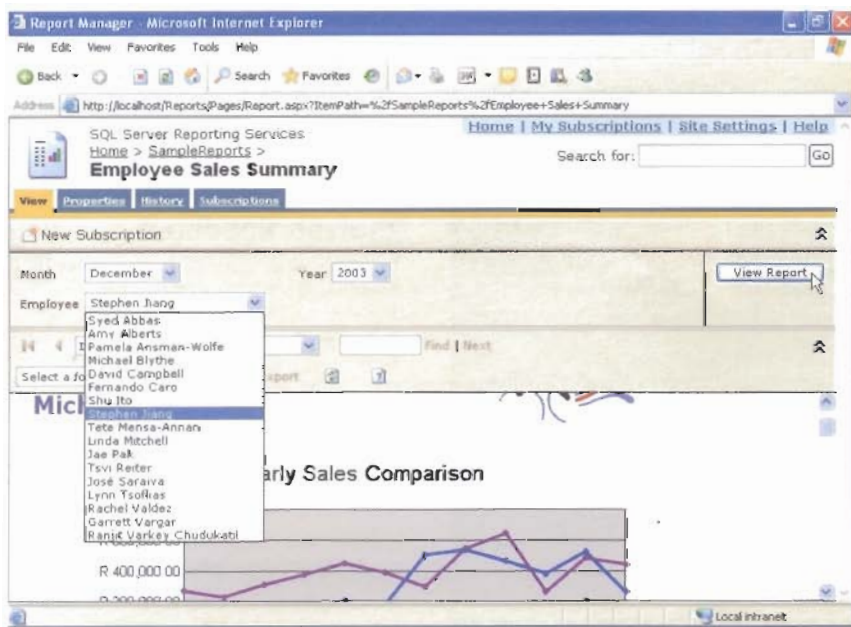
Web interface with parameters

Ryan Jamieson (IS Partners), Renier Botha (CFS), Quimby Bunce (Microsoft)

being able to handle 80 percent of our needs internally."

"This comparatively low overhead in training terms is again supported by the solution design." says Ryan. "What we put in place is essentially a library of reports – templates, actually – which users can combine and adapt to produce a far wider range of custom reports. The back-end design

"Currently, we are running about 23 separate databases – basically, one per customer – which are all running on SQL Server 2000."

makes this possible. Using a SQL Server and Analysis Services creates greater efficiency than just having any other database back end, although it is possible for Reporting Services to be used on data from most databases as long as it runs itself on a SQL Server."

"To run a stable Reporting Services platform, you need to have an IT support presence that is strong on Microsoft networking issues," says Renier. "In our case, this involves being well skilled on Windows Server

as well as the critical e-mail functionalities that are part of our solution. We could have opted for a browser interface and provided the reports via a portal but, mindful of typical human nature, we felt that if the reports are delivered by e-mail, they are more likely to be attended to. For us, anyway, a delivery mechanism works better than

expecting users to go looking for the information – even though a browser interface itself requires minimal effort.

"Another feature that facilitated this is that reports are data-driven. They are delivered to specific people at specific times on the basis of a pre-defined schedule that really only has to be created once."

"It is clear that it is better to drive information through an interface with which people are most familiar and comfortable," says Quimby. "It is a

SQL Server Reporting Services
Reporting Services integrates with Windows Server and the Office System to enable the creation, management and delivery of both traditional, paper-oriented reports and interactive, Web-based reports in real time.

SQL Server DTS (Data Transformation Services)

DTS initiates and runs an automatic series of jobs, building a daily OLAP (Online Analytical Process) Cube, pre-aggregating answers into separate cells ready for interrogation at any time.

**SQL Server (OLAP) Analysis Services**
This non-relational database builds the multi-dimensional cubes which house the ready-made answers. AS pre-aggregates all totals, bypassing the painstaking line-by-line process that slows down traditional reporting protocols.

SQL Server 2000 database
This highly scalable and reliable Microsoft database logs all files created in the automatic data management process.

Feature case study
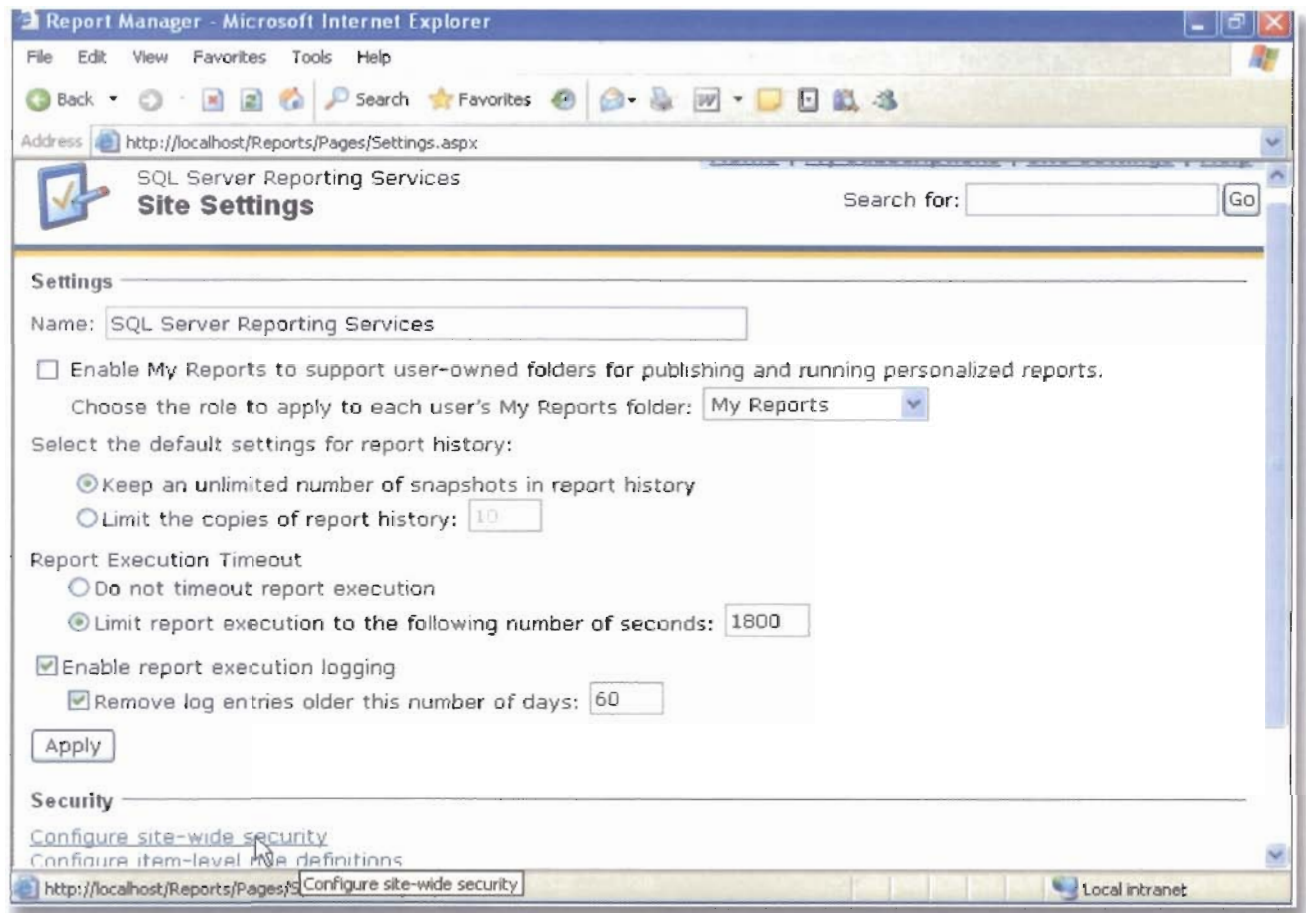
Report site settings

goal of Microsoft's design philosophy to make this possible and, even within our own organisation, we find this more effective in terms of workflow."

"SQL Reporting Services has great flexibility in this area," says Ryan. "There is a choice of either push or pull mechanisms for report delivery. The output formats are equally diverse, with choices between Web-based, e-mail, PDF or Excel. PDFs also have the added advantage of being locked down so that they cannot be edited or altered – and it is print-ready."

"This solution is far ahead of where CFS began with reporting systems," says Renier. "Originally, we had a very one-dimensional reporting tool within our proprietary software. After that, we used macros within Excel to query the database. Both these approaches still required manual input to access the information and deliver it to the right people – full automation was lacking and it was using

> **"It is a goal of Microsoft's design philosophy to make this possible and, even within our own organisation, we find this more effective in terms of workflow."**

enormous amounts of workers' time.

"This took important staff away from their core activities and reduced the amount of time that could be spent analysing the data, rather than just creating it. Automation of reporting now frees up staff to do the more valuable and creative functions. Savings in time amount to as much as four to six working days per person per month – almost a quarter of the normal working month.

"One added value that we are now realising is that setting up reports for a new customer can be done in minutes, typically changing hardly more than the actual customer ID. Previously, this required a developer to re-write everything on an individually customised basis – including all the programming, testing and quality assurance that was part of the process."

"Again, the partner approach was helpful in providing the training and

initial implementation, as well as reducing the development and deployment time," says Ryan.

"IS Partners has gone the extra mile on every account, providing a depth of knowledge in implementing Reporting Services on the Microsoft platform and developing the reports," says Renier. "Open communication channels also ensured our requirements were consistently met, while work was completed as scheduled. As time progresses, the 20 percent of the solution that still needs expert input will diminish but even that is the result of the contribution of the Microsoft partner.

"Overall, you can say that the strategy for this solution has two parts to it.
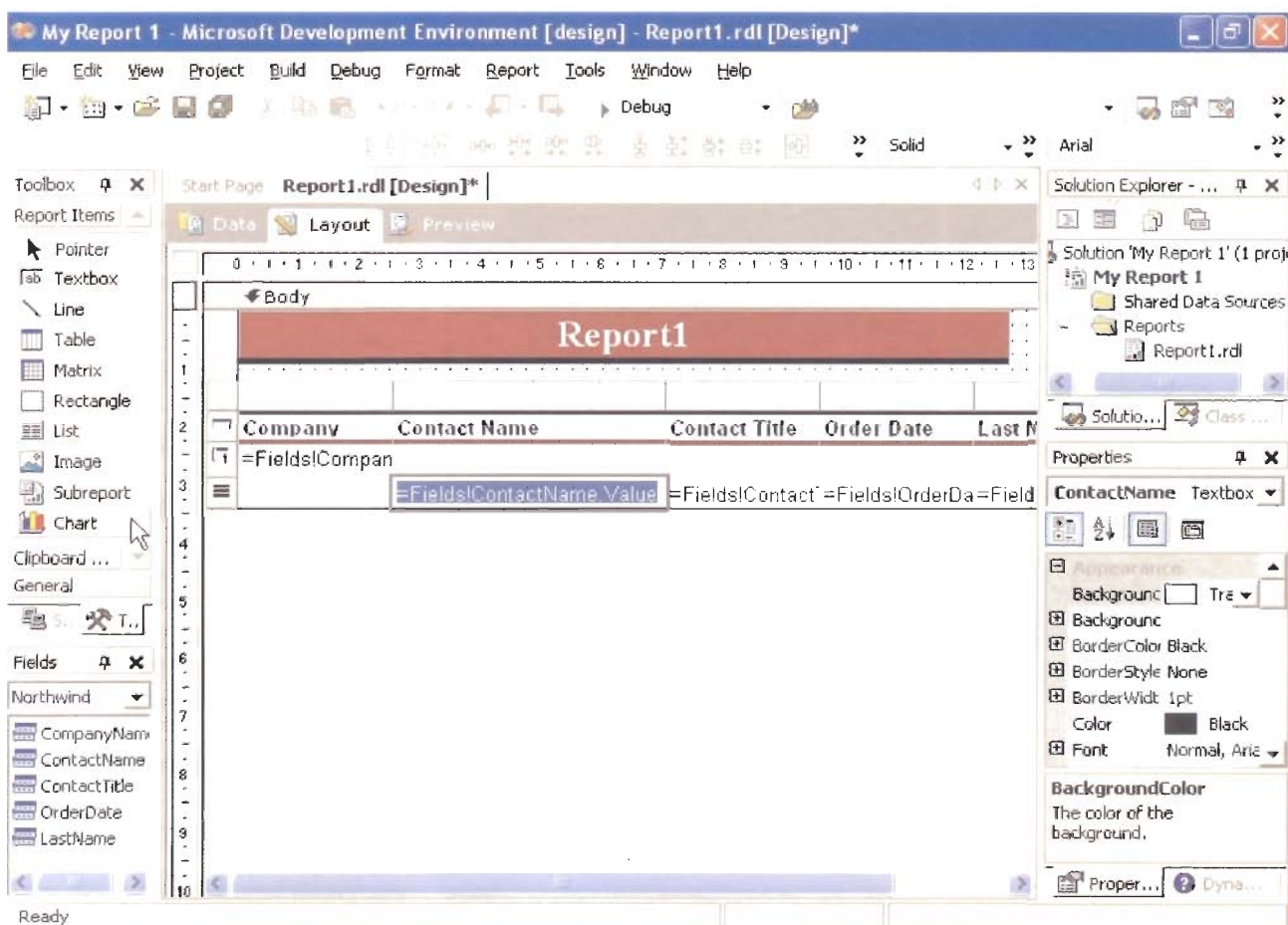
The first was to get the back end and the information in a proper format, building a suitable warehouse to provide and optimise the reporting – all this was done using standard Microsoft technology. IS Partners

"In terms of performance, this solution is 10 times faster than the common alternatives. A lot of that is contributed by running alongside Analysis Services."

contributed the BI consulting to make us aware of how vital that step was before we went on to build the

reporting solution. The second part was adding the Reporting Services on top of what was then a stable platform, which probably explains how smoothly that part of the development went.

"Even in the beta version, SQL RS was adding value and any company that deploys it now – subsequent to the release version and SP 1 – would probably be up and running within a couple of months. It took us somewhat longer, as we were literally growing along with the product development but we have had the benefit of becoming so skilled with Reporting Services that maintenance has become a lot easier with the in-depth understanding of the technology that we have gained." ∎

Visual Studio report layout