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#### Fast Facts:

#### Business Profile

The DeAgostini Group, based in Novara, Northern Italy is the largest Partwork Publisher in the world with interests in over 70 countries. The UK subsidiary, DeAgostini UK, is responsible for the publishing activities in the UK and Commonwealth markets, the Far East and other parts of Europe.

#### Industry

Partwork Publishing

#### Key Project Stats:

Number of Users: 100+  
Number of Sites: 8  
Number of Months: 18  
Database Size: >100GB  
Type of Users:  
Product Managers  
Management Accountants  
Business Analysts  
Production Controllers  
Auditors

#### Development Team:

2 Analysts  
4 Developers

#### Products Used:

Oracle Database (7.3 – 9i)  
Oracle PL/SQL  
Visual Basic 6.0

#### Availability:

Model Explorer is a private application wholly owned by the DeAgostini Group, demonstrations are available as a Trigger showcase or you may be interested in our own Publishing Solution iWiz.

#### CONTACT TRIGGER

**New Business Enquiries:**  
Chris Owen-Smith, Director  
01242 258236  
chris@triggersoft.com

## CASE STUDY: Model Explorer: marketing and financial publishing system

This case study introduces Model Explorer, the system that Trigger Software developed to replace a mesh of Excel spreadsheets that were used to provide the business modelling function for the leading UK Partwork Publisher, DeAgostini UK.

### THE PROBLEM

DeAgostini was facing an information management crisis, their business units were growing successfully but their businesses modelling functions were all based on Microsoft Excel. They could have continued to upgrade desktop computers to handle the ever growing expanse of spreadsheets but the reality was that these files represented islands of data owned by the user and not by the business. Critical information was buried with little or no opportunity for consolidation without extensive processing of the files, a task that could take days to complete. Exception handling and the implementation of business rules was non existent, corruption of the 7MB files was becoming commonplace, and user-defined macros were rife. The monthly management reporting process took three days of data processing and management accountants' time just to produce the reports, never mind the time to qualify the numbers.

The challenge was clear; replace the ageing spreadsheets with a database solution. Make it quicker, more accessible, integrated with the accounting systems, secure and yet keep it flexible because the business changes often. So, how do you graft a flexible calculation engine onto a relational database?

### THE SOLUTION

As an existing supplier to DeAgostini, Trigger Software was engaged to form part of the development team that would create and modify applications to suite the evolving business. The Oracle RDBS was selected as the core database engine on which all systems would reside. Finding a starting point, a solid base assumption on which to build the modelling system, was to be the first hurdle. Given the resources at hand it would be almost impossible to replicate Excel verbatim on a relational database. As with any large software development the key to the solution lay in the time consuming and intricate process of dissecting the existing application, or in this case workbooks, abstracting the major processes and data that they require.

The initial examinations using case and other analysis software revealed a number of significant facts. Firstly, although there were hundreds of formulas in each sheet the number of unique formulas actually used in calculating quantities or costs were less than 50. Secondly, a significant proportion of the columns in the workbooks were used to replicate other columns, perform intermediate calculations or simply display information for ease of use. The real data columns accounted for only one quarter of those in the workbooks. We have found these ratios to be similar in most Excel based applications that we have since converted.

**Calculation Server:** As in any manufacturing business, magazines are manufactured and distributed to the market place. The quantities required for each constituent component and the cost of those components must be constantly monitored to evaluate the profit or loss for the title. Accordingly, the processing of the workbooks can be divided into two types, quantity calculations and unit cost calculations. The calculation engine can therefore be directed at either managing these two entities or combining them into meaningful results. This was the key to achieving acceptable processing speed. The core calculation engine which mimicked the required spreadsheet formulae was constructed in PL/SQL. It provided the flexibility, speed and tight integration to the database that were required for the complex model calculations.

**Client Application:** Visual Basic was used to provide the user friendly interfaces incorporating a tree structure enabling users to quickly and intuitively view data. Grid controls were used to maintain the spreadsheet look and feel and empowered the user via a drilldown feature to 'mine' for data in different levels of detail. Users retained the ability to construct their own formulae but these are fully validated by the system and absolute values cannot now be hidden in a formula. To again maintain the flavour of a spreadsheet the users have the ability to paste in and out, and to save reports to Excel.

### BENEFITS

Oracle servers running Model Explorer and other integrated Trigger applications are now installed in London, Hamburg, Amsterdam, Tokyo, Athens, Warsaw, Paris and Novara with data shared globally on a real time basis. DeAgostini has successfully broken it's reliance on spreadsheets and the associated insatiable demand for desktop upgrades. Consolidation and reporting of data for each monthly management pack now takes minutes rather than days. Analysts in London can now create ad-hoc reports from Model Explorer data stored in a central data warehouse using tools such as Oracle Discoverer. Manifest errors have been eradicated by the strict input controls, a meaningful security model, centralised error handling and rigid audit trail features.

Perhaps the biggest testament to the solution is the fact that in 2005, Model Explorer will be celebrating its tenth birthday, and continues to be rolled out to new sites and extended with new functionality. The flexibility of the platform and the software design means there is no need for the Model Explorer, or its data to become a legacy.