

Two decades on

how far has Monarch kept pace with demand from management for essential information?

Computing changed beyond all recognition when it became clear that the desktop PC could one day outstrip the performance of mini-computers and mainframes.

Clearly, there were physical dimensions to that change, with a dramatic reduction in the 'real estate' needed to deliver the information resource.

But there were major cultural changes around an industry that had assumed a near ecclesiastical status within the corporates that could justify purchasing a mainframe. None but the 'chosen few' ever had access to the inner sanctum where the central processors churned away under the watchful eye of a priesthood keen to preserve an aura of mystique around their craft. Air-locked data processing centres added to the illusion that computing was something very special and accessible only to the true cognoscenti.

We investigate the relevance of this long-established report mining tool now that every PC user can access an array of desktop analysis software



The appearance of the IBM PC and small Unix machines heralded the demise of the ancien regime. The concept of computing almost as an end in itself gave way to a more encompassing, and more accessible world of Information Technology.

For all the spurious authenticity of old-time computing, its output was amazingly mundane. Lineprinters poured out literally stacks of fan-fold paper at an amazing rate; every page potentially a solid mass of data. A bridge had to be built between those serried ranks of numbers and the corporate managers who required its most vital elements to guide their business strategy. It had to be succinct and shorn of unnecessary padding: it had to be user-friendly.

A generation of reporting tools evolved to convert the raw output from the computer into more intelligible documents and screen displays. What all of these solutions provided was the ability to drill deep into the data seams and extract whatever information was required; when it was required, and in the format required. Ever keen to extend its argot through analogies, the computing industry found that the term 'data mining' fitted that bill.

Principles of report mining

By the time that the Monarch mining and reporting tool from the US-based Datawatch Corporation appeared on the scene in 1985, the mainframes of the day were already light years distant from the clunky Leviathans of the '60s and '70s.

With processing speeds and memory both several orders of magnitude greater than even a decade earlier, the intensity of the data output was proving a major challenge for the reporting systems in the marketplace at the time.

Relational databases, for example, were capable of interacting in real time to process multi-dimensional data sets, while financial modelling tools could emulate whole corporations with acceptable accuracy. These were typical of applications that required highly sophisticated business intelligence tools to

Monarch report mining overcame a major limitation of data mining which involves extracting the information needed by management from specially created reports. The process of writing the reports that could feed a data mining tool was a specialist IT department task that would rank alongside all of the other IT tasks for resources. Delays were not uncommon and any changes in the information needed from the data miner would require modifications to the source 'report'.



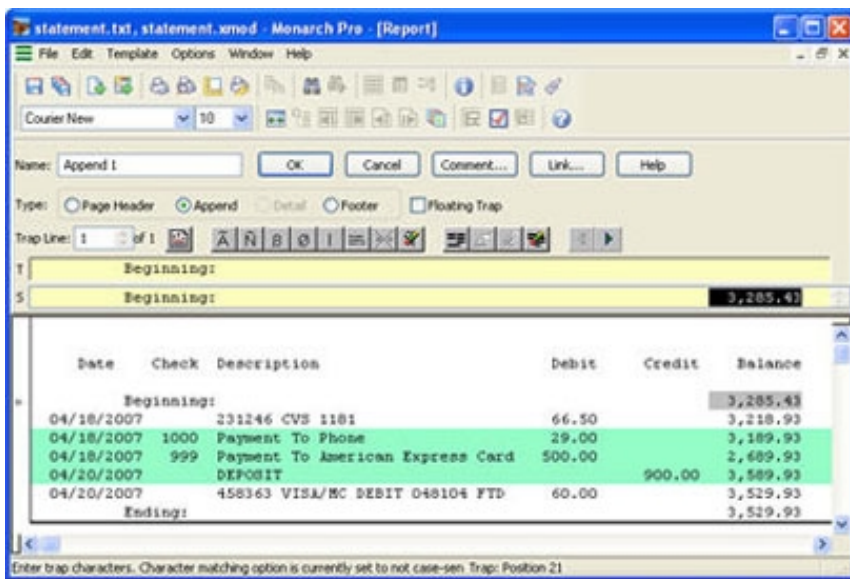
distill the data whenever management called for the information.

Monarch moved its genre forward from data mining into the more focussed report mining; this was more than a re-branding exercise but a key differentiator which helped the product start building an impressive customer base (the company currently claims in excess of 20,000 enterprises as customers, and that over 400,000 professionals are using it worldwide).

Data mining less flexible

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Report mining takes existing reports as the source for its extraction and processing. It can aggregate the output from multiple reports, from different systems and in different formats, and extract from that material the precise information content needed by management.



The screenshot shows the Monarch Pre software interface. The window title is "statement.txt, statement_xrml - Monarch Pre - [Report]". The interface includes a menu bar (File, Edit, Template, Options, Window, Help), a toolbar, and a main report area. The report area displays a table with columns: Date, Check, Description, Debit, Credit, and Balance. The table data is as follows:

Date	Check	Description	Debit	Credit	Balance
Beginning:					
					3,285.43
04/18/2007	231246	CVS 1181	66.50		3,218.93
04/18/2007	1000	Payment To Phone	29.00		3,189.93
04/18/2007	999	Payment To American Express Card	500.00		2,689.93
04/20/2007		DEPOSIT		900.00	3,589.93
04/20/2007	458363	VISA/MC DEBIT 048104 FTD	60.00		3,529.93
Ending:					
					3,529.93

Benefit of report mining

Report mining, as its name suggests, takes existing reports as the source for its extraction and processing. It can aggregate the output from multiple reports, from different systems and in different formats, and extract from that material the precise information content needed by management.

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The question must be whether there is any role today for a system like Monarch, whose *raison d'être* was the selective extraction of information from a bygone age of processing engines. Those systems have all but disappeared from the typical enterprise and, where there remains a demand for high capacity mainframe-style processing, software integrated with the core applications handles the

generation of reports with whatever content and format are required.

In a nutshell, the conditions which had created a demand for such a tool have passed into history. The mainframes and super minis have been giving way to networked computers running under operating systems such as Windows and Unix.

And for those ubiquitous operating environments emerged a whole generation of business tools guaranteed to interface smoothly with almost any other application running on the same operating system.

Has Excel posed a threat?

It was into that arena that products like Microsoft Excel matured. Once a personal spreadsheet system able to simple financial tasks such as cash flow planning and budgeting, that product had evolved under Microsoft into a powerful data processing tool with increasingly sophisticated reporting routines. Excel can consolidate information from multiple spreadsheets, for example: it also employs pivot tables, which pot down worksheets of data into concise, user-defined summaries.

More to the point, today's managers have grown up with Excel: they understand it and how to 'program' the application without specialist help to produce the tables and graphics which they need. Developments on that scale might suggest that there will not be much demand left for the Monarch report mining tool in the future.

Long-term investment in Monarch

The Monarch team could be expected to take a different view. The company clearly sees a demand for report mining as it continues to invest heavily in the product set: Version 9 was launched in 2007. That product set comprises Monarch and Monarch Data Pump (MDP) each in standard and professional editions.

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The two products are differentiated at least in part by their scale of operation. Monarch is a single-user desktop report mining system which sorts and filters data from sources of data defined by the user.

It combines data from the reports generated by accounting and enterprise information systems (ERP and CRM, for example), with the reports from industry-specific systems (manufacturing management systems would be typical), with data from another sources, such as spreadsheets and database files.

Monarch adds new calculated fields of data, using formulas and functions, and will export the information required into Microsoft Excel and Access files, PDFs, and other applications.

MDP is an enterprise-level server-based application that can automate the data reporting process and distribute the information required to specified users across the organisation. It will use that information to populate automatically the applications that will be found on their workstations.

The system's role would be to manage the extraction and conversion process so that the information is delivered to users on whatever schedule is required, and in the format that is of greatest use to them.

The solution could be thought of almost as an RSS feed that updates management when key information has changed, or at pre-determined intervals; the results appearing automatically in whatever format or delivery system is preferred. This approach does not, of course, preclude executives from calling up reports created by Monarch at any other time.

Continuing need for mining tool

According to Kris Smith, the Desktop Products Manager for Datawatch Europe, the company has continued to develop the two products because the need for a system that can extract from diverse data sources is more acute than ever. "The mainframe is still part of the

Information scene, as are smaller legacy systems such as the IBM AS400. There has been growth in the number of business systems which generate their own data from across an organisation.

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"All are generating information which impacts upon the business, though addressing different aspects of that operation. Monarch can draw on the report capabilities of all of those systems; mine for the strands of information required, and deliver it seamlessly to end-users at their desk."

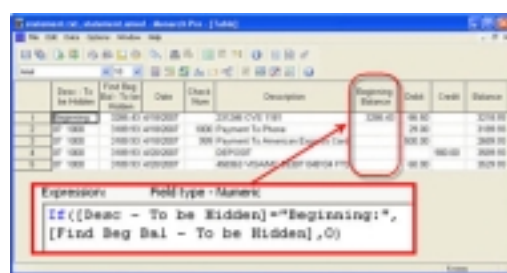
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developers keeping fully abreast of the changes in file structure which have occurred in Excel in the past decade.

As Smith observed, Excel may be the preferred vehicle for executives keen to view daily updates to standard reports, but it cannot draw data in ‘on the fly’ from the array of systems that may be operating within the organisation.

“Monarch Data Pump would sit on an enterprise server and aggregate the information mined from reports. It would then export the collated material into Excel so that company executives view it in their familiar medium. They are then free to use the data in any other applications available to them.”

Any benefits today?

The smoother flow of information apart, what business benefits does Kris Smith see for the product today? “Given that Monarch is configured to draw data together from multiple sources, time saving is clearly an advantage. And there is an associated cost saving because information is available faster.

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As a report mining tool, Monarch overcame one of the limitations of the original data mining

systems by extracting its source information from a system’s existing reports. But those reports have been evolving in a way that might well have restricted the usefulness of Monarch. The Adobe PDF file has proved increasingly popular as an output medium for ERP and CRM systems in particular. It would follow that Monarch would no longer have access to the text files which have been its source.

Checking through the Monarch specification, however, it appears that the developers recognised this potential limitation and upgraded the system to accept PDF files from Version 8, but only in the Professional edition. Monarch searches through the PDF file and extracts the data required.

Significantly, it can output its own reports as PDFs so managers expecting to see PDFs find the distilled information in the same format. Charts and graphs generated by Monarch will be reproduced within the PDF.

An investment worth making?

A system like Monarch could meet every conceivable operational requirement, but the perceived value has to be set off against its price. The standalone Monarch Report Mining Tool comes into the frame at £380 for single copies of the standard edition and £460 for the professional edition.

The standard edition is limited to ANSI and ASCII format reports as its source; the premium version can handle PDFs and external databases. The extra £80 adds disproportionately to the value of Monarch, making the professional edition an investment much easier to justify. It is not easy to see why Datawatch maintains its two-tier structure.

The server-based Monarch Data Pump is priced at around the £5,000 mark; the purchase requiring more stringent justification. But configured to deliver real-time reports across an organisation, in formats wholly familiar to users, that is still a cost that should be defrayed several times over by the executive time saved in filtering and processing data. If just one corporate decision were based on that higher standard of information, it would be a cost that would easily have been justified. §