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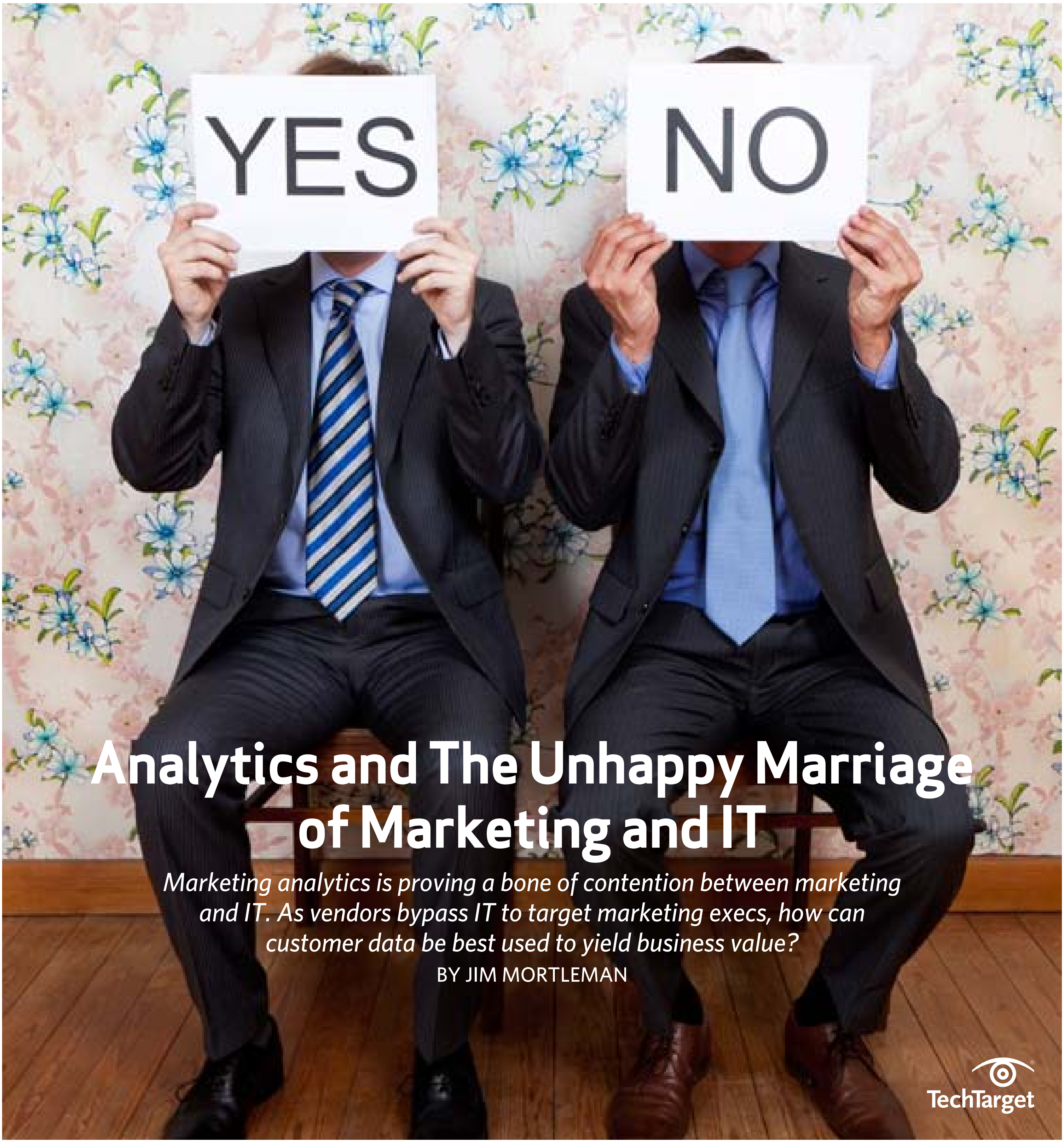

Analytics and The Unhappy Marriage of Marketing and IT

Marketing analytics is proving a bone of contention between marketing and IT. As vendors bypass IT to target marketing execs, how can customer data be best used to yield business value?

BY JIM MORTLEMAN

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Grasping the Nettle of the 'I' in IT

IT PROFESSIONALS WITH data management or business intelligence (BI) expertise should be among the ranks of the geese who lay golden eggs. And yet there is always a three-headed danger of being sidelined by other functions, failing to capitalize on seemingly esoteric technologies that can be turned to business advantage and underestimating the strategic importance of database infrastructure.

The three articles in this issue of *IT in Europe: Data Management & BI Edition* draw out the value of the 'I' in IT and suggest that data management professionals are well-placed to make a difference in its exploitation.

It is not a matter of staking an exclusive claim to all things informational. Unfortunately, IT departments are proving to be in the way rather than leading the way when it comes to marketing analytics. As suppliers bypass IT to target marketing—which seems determined to outfox IT—how can customer data be tapped for business value?

Risk management tops the agenda as European financial markets are rocked by debts and default risk. But is real-time data management part of the answer, or a technology looking for a problem?

It's tempting to see database strategy as spring cleaning. Often there is a clutter of databases and applications, including cuckoos in the nest. Nevertheless, IT leaders are looking afresh at database performance to make their organizations more agile. And at the heart of any renewed database strategy is likely to be business demand for improved analysis capabilities: the 'I' in IT. ■

Brian McKenna
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Analytics and the Unhappy Marriage of Marketing and IT

Marketing analytics is proving a bone of contention between marketing and IT. As vendors bypass IT to target marketing execs, how can customer data be best used to yield business value?

BY JIM MORTLEMAN

THE AMOUNT OF data about a company's customers and target customers that can be mined for valuable insights with marketing analytics tools is growing exponentially. And not merely in corporate databases, data warehouses and customer relationship management (CRM) systems. Increasingly, much of the information is public—out there on the Web for all to see—or semi-public, residing on social networks like Facebook and Twitter.

For many marketing departments, it sounds like a dream come true. At long last, they have at their fingertips the information they need to gauge—often in real time—the sentiments, needs, gripes and behaviours of those whose custom they court. In some industry sectors, harnessing that data offers the tantalising prospect of helping organisations turn their customers into co-promoters of the brand (and even co-creators of products and services). But something's stopping most of them from doing so—and in many cases, it seems that something is their own IT departments.

Clive Longbottom, service director at UK-based analyst firm Quocirca, said too many IT departments are fobbing off marketing folk with the latest "Facebook/Twitter-ready" application from whichever vendor happens to be their incumbent supplier of business intelligence (BI) software. "They say, 'Here you go, have a copy of SAS/Business Objects/Hyperion/Cognos/et cetera—that'll do everything for you,' and tell them to go away," Longbottom said.

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Clive Longbottom, *of analyst firm Quocirca, says marketing departments are "not getting the necessary help from IT" on analytics.*

This, he thinks, leaves marketing departments in an invidious position. "They have the capability to do what they've always wanted—to be more opportunistic and inventive in their approach and use all the media available to them—but they're not getting the necessary help from IT," he said.

VENDORS NOT AIDING MARKETING ANALYTICS CAUSE

The fault, however, does not lie with the IT department alone—the BI and analytics industry itself is also to blame. Just as with previous major trends such as the advent of the Web and the move to virtual-

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ised environments, vendors have been slow to adapt to the new order of vast swathes of unstructured and semi-structured online data, and how that information might be utilised. In addition, the available technology is extremely fragmented.

"Very few companies will monitor social networks and pull information out for you in a form that can be readily analysed," Longbottom said. "Some tools let you push information out and might, if you're lucky, monitor the responses. Others search for mentions of a particular name or tag, which is fine if you have a unique name but harder when it's something more generic. But few vendors, if any, can take a fully holistic view of all this information and pull it all together for you. Frankly, it's a mess."

The market is, however, evolving. Salesforce.com, the big daddy of cloud-based CRM, has introduced the capability to feed data in and out of social networks. Longbottom also expects other major CRM vendors to gain similar capabilities by acquiring smaller players with suitable offerings. "Oracle has bought RightNow, for example, which has been putting in place some of this stuff," he said. He also pointed to smaller, specialist vendors that focus on information analysis and enterprise feedback, such as Recommind and ConfirmIT. Those companies "are doing things to integrate social network data, although they're not really geared up for campaign management or marketing at the moment," Longbottom noted. "So the market is very piecemeal."

SEDUCING MARKETING BEHIND I.T.'S BACK

In such an environment, if marketing departments are to steal a march on their competitors and gain better insights from a greater range of internal and external data, they need IT's help to understand the capabilities of the tools on offer and deploy and use them effectively. But some chief information officers (CIOs) suspect vendors will increasingly target marketing departments directly with their offerings. "It will undoubtedly be a problem for some [organisations]," said Ian Cohen, CIO of financial risk management firm Jardine Lloyd Thompson. "For example, I'm guessing that now Salesforce are pushing Radian6 as a kind of 'social sentiment hub,' they will go after chief marketing officers and the like."

Chances are, such approaches will only serve to exacerbate conflict between the IT and marketing functions. At the moment, many marketing chiefs are frustrated by the speed and quality of information

Ian Cohen, *CIO of Jardine Lloyd Thompson, says vendors selling directly to marketing "will undoubtedly be a problem for some [organisations]."*

IT is able to provide. Lance Mercereau, head of marketing at vendor Rosslyn Analytics, said: "Our IT department has created some nifty reports that provide better insight in terms of who visits our website and downloads apps from our site and those of our partners. The challenge is that IT is always stretched, so requesting new fields or data points to analyse takes time. Yet marketers need more immediacy to be able to respond to the market effectively."

Mercereau added that he wants to see easier-to-use marketing analytics tools "that enable me to extract, improve and analyse data almost in real time. At the moment, tools are difficult to use or I have to wait on someone else to provide the data for me to analyse."

THE RISK FACTOR IN MARKETING ANALYTICS

One of the major causes of internal conflict over the use of data analytics stems from the differing priorities of marketing departments and those responsible for managing organisational risk. Behavioural analytics startup Featurespace sells into both markets—its products can be used on the marketing side to predict the value of particular customers to the business and the products and services that are likely to appeal to them. Equally, they can be used by risk management departments to look for patterns indicating fraud or other abnormalities, for example.

> "A lot of risk decisions we've seen in the past have been very black and white. Now companies want to manage risk in a more 'greyscale' way—revising how you're prepared to interact with [customers] as you learn more about them."
>
> **—DAVID EXCELL**
> *Founder and CEO, Featurespace*

David Excell, founder and CEO, said: "Marketing departments are incentivised by getting the maximum number of customers and growing revenue. Risk departments are almost the opposite—they're trying to minimise risk by excluding certain potential customers."

Excell does sense a change, however. "A lot of risk decisions we've seen in the past have been very black and white. Now companies want to manage risk in a more 'greyscale' way—accepting customers within certain limits and revising how you're prepared to interact with them as you learn more about them. Today's technologies allow you to do this in a scalable way without armies of analysts," he said.

While this conflict—between marketing and risk specialists, who may include information security staff—might seem a specialized instance that proves resolvable by technological development, a more general technology acquisition frustration among marketers is causing them to source their own standalone or cloud-based data analytics systems. Often this is, indeed, without understanding the potential implications for the rest of the business in areas such as data security, risk management, interoperability and the impact on future technology strategy and capabilities. All of those issues are core to the IT function, and many IT executives worry about ceding control over them.

For example, at a recent meeting of some of the country's most senior CIOs organised by the Winmark CIO Network (and conducted under the Chatham House Rule, which prevents their identities being revealed), one delegate said, "Typically, it's the people who are well-versed in technology that know how to keep the funnel of innovation open, and there aren't many people at the senior level of the business who can make those decisions."

> Many top CIOs are successfully changing the nature of their role to become more of a "trusted adviser" to marketing and other departments.

I.T. TO BUSINESS: 'WE NEED TO TALK'

Another CIO at the meeting said: "To me, the power comes from the convergence of data and analytics, together with mobile [technology], social media and the explosion in the volume and pace of information. There's a real debate to be had about how this will become more relevant to the business."

Many top CIOs are successfully changing the nature of their role to become more of a "trusted adviser" to marketing and other departments—guiding technology decisions and helping business executives think about the implications of those decisions without being as prescriptive as in the past. But for others, especially those beneath the top tier, resolving the IT-business conflict in areas such as marketing analytics likely won't be easy.

Independent governance author Graham Oakes said organisations need to ensure that they have some kind of relationship manager able to talk the language of both IT and marketing. "That could be an IT person who can talk in terms of the big picture, or perhaps a marketing person who likes to delve into details," Oakes said. "But it takes time to build trust between the two groups—I've seen it take years—especially if they have a history of warring with each other." ■

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Data Integration, Quality and Governance

Real Time or Right Time? The Data Management Conundrum in Banking

Risk management tops the agenda as European financial markets are rocked by debts and default risk. But is real-time data management part of the answer, or just a technology looking for a problem?

BY KRISTINA WEST

THERE IS NO doubt that data management is a critical component of any financial services firm's risk management strategy in the current market climate. As financial strategies become more complex, new financial instruments are added and businesses continue their expansion across the globe, the need for a coherent and streamlined approach to data management—potentially including the use of real-time data—has never been greater.

Bruce Feibel, managing director of product strategy at BNY Mellon, an asset management and securities firm, commented: "Many investors and investment managers find it a challenge to form a complete understanding of their [market] positions and performance on a daily basis across all asset classes and strategies they are managing. The maths isn't hard, but the data management challenge is there, especially with data inputs at different times and in different formats."

Counterparty risk—the risk to each party of a contract that the counterparty will fail to honour its obligations—is one of the major issues being addressed, in part, by data management strategies. With many European banks exposed to sovereign-debt issues due to the euro zone financial crisis, there is the risk that became fact with the 2008 collapse of Lehman Brothers: if one bank fails, all of its counterparties are left exposed. Additionally, there are a number of related issues, including the lack of a standard de facto provider for corporate information, such as legal entity data or tax liability data. Firms must

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therefore have a view across their entire business to see their true exposure to counterparties; this is where effective data management has a major role to play.

REAL-TIME DATA TO BOLSTER RISK MANAGEMENT

One argument being made is that any approach to data management, especially where it impacts the risk management operations of a financial services firm, should ensure that data is available not only in a cohesive form but in real time. "It is critical—real time means that people can make the decisions that impact their business," said Yves de Montcheuil, vice president of marketing at data integration company Talend. "Firms can use the rear-view mirror perspective and look at the past, which people have been doing for 20 or 30 years, or look at things in real time, when there is still an opportunity to fix them."

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> *VP of marketing, Talend*

The pressures of recent and upcoming legislation also appear to point to the validity of the real-time approach, with demands for transparency and increased reporting requirements coinciding with client demands for greater and timelier access to their data.

On closer inspection, however, it seems impossible to take that view as a wide-ranging statement of fact. "Real time is not very important [per se]," said Gert Raeves, research director for capital markets at The Tower Group's European headquarters in London. "It is more about being event-driven and about precision and quality of data. The lowest possible latency is important in issues such as price discovery. [Real time] is also technology looking for a problem to solve, and it has discovered a natural problem—intraday risk and liquidity management." It is certainly the case that the bulk of reporting often still takes place at the end of the day, while latency has always been more of an issue in trading than in risk management.

That does, however, depend largely on what area of financial services your business is in. "There are many dimensions to banking," de Montcheuil said. "If you are looking at fraud detection, real time is critical. For example, with a credit card application that may be approved in seconds, all of the data must be ready for that query." In contrast, an intraday event, such as a counterparty credit downgrade, is about being event-driven, and the system needs to be real time to react to material changes.

DATA MANAGEMENT INTEREST SPIKES IN FINANCIAL SERVICES

So how are banks themselves approaching this issue? BNY Mellon's Feibel believes that the importance of sound data management—including access to and use of data, coherence of format and centralisation—is gaining traction across financial services: "There has been a sea change in awareness of how important data management is over the last couple of years. It has gained a more formalised role, and many firms are now prioritising it."

As banks become more aware of data management issues, including how real-time data management can affect their operations, decisions have to be made with regard to technology. BNY Mellon offers its money management clients the data warehouse and data

"There has been a sea change in awareness of how important data management is over the last couple of years."

—**BRUCE FEIBEL,** *managing director of product strategy, BNY Mellon*

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hub approach: its Eagle PACE system sits in the middle of a firm's IT infrastructure to provide an integrated picture of positions and performance, according to Feibel. "The technology for the data warehouse is not new—we have offered Eagle PACE for 10 years and over 150 clients use it," he said. "What is new is the ability for us to deliver data management as part of a middle-office service." The system "can be as real time as it needs to be," he added. "[But] a lot of reporting on the buy-side takes place at the end of the day."

DATA VIRTUALIZATION FOR A SINGLE VIEW?

Some, however, believe that the data warehouse approach is too slow and too costly to be sustained in today's business environment. "Some firms are still creating data warehouses to physically pull together data sources," Tower Group's Raeves noted. "These projects are challenged by maintenance overheads and the latency and timeline aspect, as these are usually batch projects rather than being intraday and event-driven." As a result, he said, many organizations are now looking at a virtual data warehouse approach, using software that allows comprehensive data to be accessed as if it were collected centrally; this approach enables "a [dashboard] look-through for business analytics" on data held in different systems.

This is an area of potential innovation in the financial services industry, and technology supporting it is being offered by a number of IT vendors. There is some opportunity for new technology to be deployed, giving a virtual view of data in a single place with applications on top and offering firms an informed business analytics view with capabilities for meaningful analysis of data.

"Some firms are still creating data warehouses to physically pull together data sources. These projects are challenged by maintenance overheads and the latency aspect."
—GERT RAEVES, *Tower Group*

CULTURAL BARRIERS TO REAL-TIME DATA MANAGEMENT

Unfortunately, taking either data warehousing approach with a view to real-time risk management is not as straightforward as it may seem. Many banks' ongoing reliance on the silo-bound approach to managing transactions or market positions can be a problem, as when a firm has an equities system for Europe, a fixed income system for Asia, a derivatives system for North America and every possible permutation of that infrastructure. The issues are not just technology and cost, but can often be cultural—many institutions would need a shift of culture to allow for such a policy-driven, cross-departmental approach.

> Many banks' ongoing reliance on the silo-bound approach can be a problem.

Additionally, there is the issue of responsibility. Who can guarantee the quality of the reports, for example, if information is being derived from so many different sources? That is especially a concern when reports are tailored for different customers. Financial services firms need to balance this difficulty with the need to have the usual auditability and transparency.

When considering the data management aspects of risk management, financial services firms must be prepared to take a business-wide approach, yet one that takes into account the differing needs of various parts of that business when assessing the real-time data requirements. ■

Explainer: Complex Event Processing (CEP)

CEP IS BUILT around the notion of data being received as a stream, with automated tools monitoring events in real time and seeking out patterns and relationships in the data to enable business managers to identify events and trends that will affect decision-making processes. Within CEP, real-time data management is a vital business component that allows the identification and manipulation of trends that might otherwise be overlooked. The benefits can be applied equally to different areas of the business, including functions such as "alpha generation" processes for creating quantitative financial models and risk management. ■

Can Database Strategy Be Rethought to Enable Business Agility?

Rethinking database strategy can help to promote business agility and other strategic business goals. As organizations take a fresh look at their database infrastructure, what are the options?

BY STEPHEN PRITCHARD

THE DATABASE IS the engine of business IT. Databases lie at the heart of both custom and off-the-shelf enterprise applications. And whilst databases are sometimes viewed mostly as a tool for storing information, they provide the underlying functionality for tasks from customer relationship management to finance.

But this broad functionality presents a challenge for IT leaders when it comes to streamlining or modernising database infrastructure in order to subserve business agility. Databases are so critical but also so tightly bound to business applications—and by extension, business processes—that changing the database risks disrupting the business.

Nor is it always simple to identify which databases support which applications or to decouple the database and application layers within an application "stack."

As databases are bought as standalone systems or separate components of higher-level applications or are embedded in applications or even business services, companies can easily find they are running a plethora of different database platforms, supporting a wide range of applications and processes.

One single database instance might power several applications or application instances; but an application might also draw data from multiple databases. Sometimes these connections are not always clear.

As the chief information officer of one UK government agency

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explained, when the agency audited its IT infrastructure as part of a wider IT management project, it found applications belonging to other agencies running on top of its databases. These "guest" applications were not affecting database performance, but they had created dependencies and points of failure, unknown to the agency's IT managers, said the CIO, who cannot be identified for reasons of confidentiality.

PRESSURE BUILDS TO CHANGE DATABASE STRATEGIES

Nonetheless, pressure is growing for businesses to look again at their database infrastructures in order to promote business agility, especially in cases where the business is a heavy user of data and analytics. A requirement to store larger volumes of data is putting strain on some corporate database architectures, especially older systems (early versions of SQL Server, for example) that were not designed to handle large data sets. "People may switch ... because they want to move beyond historical analysis and move to predictive analysis or real-time analytics and to high-speed search," said Steve Gallagher, a technology specialist at PA Consulting Group. "Databases need to be faster and to deal with more complex data types."

> "Apart from speed, businesses switch because they are looking to do more with less: to have a lower [total cost of ownership]."
> —**STEVE GALLAGHER**
> *Technology specialist, PA Consulting Group*

IT leaders are also looking more closely at basic database performance. But where in the past companies might have tackled performance bottlenecks through hardware upgrades, constraints around budgets, data centre space and even available power make that harder.

Often, however, the main motivation for switching databases is neither capacity nor performance, but cost. "Apart from speed, businesses switch because they are looking to do more with less: to have a lower TCO [total cost of ownership]," Gallagher said.

With IT budgets under continued pressure, analysts expect CIOs to look again at their database strategies to see whether it is possible to consolidate to fewer database instances, and perhaps to

STEVE GALLAGHER, *a technology specialist at PA Consulting Group, says databases need to be faster to support new types of analytics.*

fewer vendors. In addition, many companies will be looking not only at licence costs and maintenance fees, but also at the staff costs of their database administration teams. "Left unchecked, database costs can become a significant part of the IT budget," cautioned Forrester Research analyst Noel Yuhanna.

Another factor is the shelf life of the database technology itself. Where businesses are running older databases and vendors have either announced the end of support for the software or its future is uncertain, CIOs might prefer to upgrade sooner rather than later. Hardware costs could also be a consideration. "Vendors argue that you need less hardware [with newer databases] because they perform better," said Philip Howard, an analyst at Bloor Research.

A change of database strategy might also be forced on the IT department, through other changes in the business. Mergers, acquisitions and the sale of business units can prompt either the consolidation or splitting up of database resources. But upgrades or changes to business applications can also force a change to their underlying databases, and this can be a trigger to look at other database instances the business is running.

More forward-looking CIOs are looking at how cloud computing will affect their business applications.

In some cases, hardware changes too can be a reason to change databases—either because of a move between platforms, typically either to Linux or Windows to take advantage of lower-cost server hardware, or to support server consolidation and virtualisation. And more forward-looking CIOs are, with reference to increased business agility, looking at how cloud computing will affect their business applications, and so their underlying database strategy.

THE BARRIERS TO SWITCHING DATABASES

Switching databases is not a risk-free task, though. Because businesses depend so much on their data, a database change is not just a simple software update; it goes to the heart of an organisation's IT strategy. So the reasons for switching must be compelling.

Even database vendors concede that a database platform switch—rather than a version upgrade with the same vendor—is still the exception rather than the rule.

"Only a couple of clients have moved databases without upgrading something else, and that has been down to performance," said Ian West, UK information management leader at IBM. "We've seen big bottlenecks in data warehousing environments where there was nothing wrong with the hardware."

Chris Glynn, a senior consultant at IT integrator 2e2, said, in a similar vein: "There's not always a need to change—look at how you are using what you have got. ... Sometimes clients recognise themselves that the issue is with the database layer. Databases are often designed for transactions, not reporting systems or analysis."

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The ability to either switch or consolidate databases is also limited by several factors. Applications running on top of a database, or drawing data from it, may need to be updated in order to continue functioning. And some applications—including human resources and accounting packages—use embedded database instances. These databases usually cannot be uncoupled from the application, so database consolidations or conversions could mean switching to a new application as well.

Then there is the business risk. Moving to new databases likely will

Business Agility and Analytical Advantages

DEMAND FROM THE business for improved data analysis capabilities, as well as the need to handle larger data sets, is driving some chief information officers to look at deploying new database technologies that offer alternatives to conventional relational databases.

For example, Hadoop, which uses the power of distributed computing to boost analytics performance, and column-based databases, which store information in columns rather than rows, are both gaining ground for data warehousing and other analysis-intensive tasks, according to analysts and IT vendors.

"Column-based databases, which were seen as niche up till a couple of years ago, are now very mainstream, and people are starting to invest in them," said Andrew de Rozairo, business development manager for EMEA (Europe, Middle East and Africa) for Sybase. His view is echoed by Chris Glynn of IT integrator 2e2, who sees scope for even greater use of column-based database technologies, especially in data warehousing.

A further development is the growing availability of in-memory database and analytics technology. Currently, for example, SAP is promoting the in-memory approach as a high-end way to improve the performance of analytics applications, while other vendors offer in-memory tools with vastly different architectures and price points.

At the other end of the spectrum, there is growing interest in NoSQL or "not only SQL" databases, nonrelational technologies that can be more flexible to set up and potentially more powerful for certain data-intensive applications than conventional databases are.

These technologies may not yet be mature enough for companies to use for their core operations—but they could be on the CIO's radar for future system refreshes. ■

disrupt business processes, at least in the short term. For that reason alone, CIOs often find it easier to migrate databases at the same time as other technology upgrades. Doing so also spreads the cost of contingency planning. "Businesses today are more dependent on IT than ever; the ability of IT infrastructure to drive and enable the business is intrinsic," noted David Rajan, a technology director for Oracle UK, Ireland and Israel.

IT departments that are planning to move to a new database should test the technology carefully before committing critical systems to it, cautions analyst Philip Howard of Bloor Research.

In the slightly longer term, however, database migration is on a path to becoming easier. As well as greater compatibility between proprietary SQL extensions and data types and technologies for exchanging data, such as XML, some vendors are developing database compatibility layers (DCLs) that will allow one database to emulate the tool set of another.

Currently, IBM is the main vendor offering a DCL. Forrester predicts, though, that others will follow with their own products.

But IT departments that are planning to move to a new database should test the technology carefully before committing critical systems to it, cautions Bloor Research's Howard.

"Do a pilot or proof of concept before moving mission-critical applications," he said. "Migrating noncritical applications is fine—for critical apps, I have my doubts." ■

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