

Unified Business Intelligence Meets the Needs of 21st Century Business

A large consumer products manufacturer needed to improve its business performance if it was to compete and succeed in today's intensely competitive business climate. Using Oracle Business Intelligence (BI), it examined its distribution, warehousing, logistics, and transportation processes. Based on insights gained through BI, it redesigned and consolidated its product distribution warehouses and rerouted distribution. *The bottom line: \$1 million in savings in freight charges and facility costs.*

A major financial organization struggled to keep its 400 sales teams updated with the latest information and reports critical to their sales effectiveness. Producing and distributing the reports was a four-week process for the project team, which meant that the sales teams were working with—at best—month-old data. Using the Oracle BI, the company is able to produce the reports the same day the data is closed and distribute it immediately to the sales teams, with no manual labor involved. *The bottom line: More effective sales and a full return on the BI investment in 18 months.*

Few can argue anymore with the benefits of knowledge- and

information-driven management. Long heralded by such business luminaries as Peter Drucker, information and knowledge have emerged as the key to business success in the 21st century. Although BI plays a central role in enabling organizations to leverage the power of information and data, companies have long struggled with the fragmented nature of BI as it has evolved. The fragmented nature of BI drives up the cost of BI initiatives, limits its application, and reduces its effectiveness in driving business improvement.

Another significant problem with a fragmented approach to BI is the potential for delivery of inconsistent and unreliable

information. With this and the other shortcomings of a fragmented approach, what is required is a unified approach to BI in which the different pieces are addressed in a single, integrated solution.

"Companies are looking to reduce the number of BI vendors and products they use. It is costly to maintain all these products, which is a good argument for not having separate vendors," says Henry Morris, senior analyst at International Data Corp. (IDC), Framingham, MA. Under these circumstances, a comprehensive BI solution makes sense.

This paper will review the evolution of BI and examine its current state, which is characterized by numerous point products that are difficult to integrate, coordinate, and orchestrate. It will look at the cost of maintaining a fragmented BI strategy and how it impedes effective use. Finally, it will introduce Oracle's comprehensive BI solution, which does away with the need for myriad standalone products, each with its own license, implementation, deployment, and integration issues.

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Worldwide Business Analytics Software Revenue by Leading Vendor, 2003

	Revenue (\$M)	Share (%)
Oracle Corp.	1,639.5	12.3
IBM	1,388.9	10.4
SAS Institute	1,073.2	8.0
Microsoft Corp.	716.3	5.4
Business Objects	700.7	5.2
Hyperion Solutions	512.7	3.8
Cognos Inc.	506.0	3.8
SAP AG	345.3	2.6

SOURCE: IDC

Evolution of BI

BI began with the early main-frame reports, called system outputs, decades ago. Printed out on stacks of greenbar paper, they were periodically distributed to managers. The managers were expected to pick their way through them to identify pertinent information they could use in their tactical and strategic decision making.

From there organizations proceeded to custom reports, which required skilled programmers and took weeks to produce. Early ad-hoc queries and reporting speeded up the process and made it possible for technically skilled managers to create their own queries and reports, but few managers had the time and skills to do that.

The emergence of the data warehouse gave a big boost to BI by aggregating all the data in a single location, where it could be queried interactively without impacting production applications. Online query and reports

tools with increasingly easy-to-use graphical interfaces made BI accessible to more managers and enabled those managers to get critical information and answers more quickly.

Data warehouses were followed by data marts—specialized data stores that further accelerated the process of getting information to managers for the purposes of informed decision making. Then there were OLAP and other multi-dimensional analytical tools, which allowed managers to dice and splice the data in a variety of ways and mine it for otherwise hidden insights.

At that point, BI began merging with business analytics (BA). Today BI and BA are delivered as applications that run on top of an infrastructure of databases, data management systems, ETL capabilities, and more. The BI infrastructure may include executive dashboards, scorecards, and other tools that make it easy for managers to find and understand the information and proactively

use it in decision making.

This decades-long evolution did not come without a price. During this time companies purchased and deployed a wide variety of BI-related products. They employed different deployment models, different user interfaces, and different management interfaces as well as having different integration requirements. By now companies may have eight, ten, or more different BI products deployed. The cost of maintaining this proliferation of tools and technologies is already high and will get higher.

Forrester Report, in a recent report by Keith Gile titled “Grading BI Reporting and Analysis Solutions,” found that “companies have a wide variety of technology options from a plethora of BI vendors to platform and application vendors.” The solution, Gile suggests, is a comprehensive BI product. “Companies want a single BI reporting and analysis solution. Every company and government

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organization wants a single, standard reporting and analysis solution for the entire organization. Why? They need to drive down IT support costs and simultaneously increase the likelihood of a single version of critical data.”

BI Today

BI now typically encompasses BA as well as conventional BI. BA involves the ability to query and report data as well as applications for tracking, storing, analyzing, modeling, and presenting data in support of decision-making processes. According to IDC, in 2003 the BA market rang up over \$13 billion in sales, and it is projected to grow at an 11% compound annual rate. IDC identified Oracle as the leader in the worldwide BA software market, with a 12.3% market share.

Previously BI had been used for strategic and operational decisions. Based on BI, managers could decide when and where to open or close stores or develop and launch new products. Now, IDC sees BI being extended for use in tactical decisions.

For example, a customer may call and want to place a new order. The customer, however, has reached his credit limit. The system kicks the order out to a

credit manager to review. Through BI, the credit manager can review the customer’s order and payment history, look at demand for the products being ordered, and even bring up some third-party information about the customer and its market, as well as employing some risk-assessment business analytics. Armed with this kind of BI/BA, the credit manager can, with confidence, make an immediate tactical decision on whether or not to extend credit.

The above example also illustrates the growing interest in real-time or near-real-time BI. Where business reports once came monthly or quarterly, now companies want BI delivered fresh—daily, or hourly, or even by the minute. This gives managers information in time to make decisions that actually impact the situation. Based on frequently updated information, a manager might decide to change staffing levels that day or to re-route deliveries.

One retailer, for instance, uses BI culled from the POS system and credit card authorization system every 15 minutes, combined with a fraud analytics application to deliver alerts about potential fraud to man-

agers on the selling floor. Admittedly, it is not fast enough to catch thieves in the act, but it does give the security staff a hot trail to follow and lets them prevent further losses.

Costs of Fragmented BI

As both IDC and Forrester point out, the cost of owning and operating a complex enterprise BI environment consisting of multiple products from different vendors is increasingly untenable. Enterprises intent on cutting costs find they can save considerable amounts of money by standardizing on a single BI/BA solution set that meets nearly all its BI needs. (No single product will meet all the needs of every organization.)

On top of the need to scale back ongoing BI costs, organizations are also facing costly compliance mandates. While BI does not directly address compliance issues, the same underlying data, databases, data warehouses, and data management that are central to meeting compliance requirements are also part of the BI infrastructure. Rationalizing the BI and data management infrastructure will also streamline the compliance process.

Specifically, organizations that maintain multiple BI products from different vendors face high costs in the following areas:

- **Software licenses**—the cost of initially acquiring and deploying the software
- **Software maintenance**—annual charges, typically 15%
- **IT training**—the cost of training IT personnel to manage and maintain the software

- **User training**—the cost of training users to use the software
- **Integration**—the cost of making multiple products work together
- **Redundant infrastructure**—the cost of managing and maintaining multiple data stores, meta data repositories, and other components

Often these costs are obscured. They are tucked away in a dozen different operational budgets—charges for training here, for integration there, for maintenance someplace else. However, by adding up all these costs and multiplying them across by 8, 10, 12 or more individual BI products, which is not uncommon in enterprise environments, organizations can quickly find the total running into millions of dollars.

Given the high cost, the value of consolidating on a single, unified BI/BA solution that includes the functionality of myriad individual products becomes an easy decision to make. Even if the decision to standardize on a single data infrastructure and BI solution from one vendor requires the migrating off and replacement of numerous BI point products from other vendors, the savings will still be significant in most cases.

In addition to increasing the cost of maintaining the BI environment, the fragmentation impedes usage. Managers have to use multiple tools, each with a different interface, to get the kind of information they need. Sometimes, they have to stop and resolve conflicting versions

of what should have been the same information. This extra work and the time required for additional training often discourages a manager from using BI at all. In the end, valuable information is not effectively used and valuable insights can easily be missed.

Oracle's Comprehensive BI Solution

Oracle provides a complete and integrated BI solution that is also based on open standards. Organizations benefit by incrementally and seamlessly integrating Oracle BI functionality into their existing BI infrastructure to eventually migrate to a single, unified Oracle BI solution. Oracle Business Intelligence consists of the *technology* (Oracle Database 10g and Oracle Application Server 10g), the *applications* (Oracle E-Business Suite and Partner solutions), and the *expertise* (Oracle Consulting and other System Integrators, which can help companies successfully deploy a unified Oracle BI solution). No longer do organizations have to acquire, cobble together, and support numerous point products from BI, BA, middleware, and data management vendors—a costly undertaking, as has been demonstrated.

Oracle includes everything an organization needs for collecting data in the first place, managing a single view of the data in a central repository, and making it easily accessible for analysis through a complete set of integrated tools and applications. IDC looked closely at the Oracle solution and noted that “Oracle

provides a full spectrum of operational, tactical and strategic reporting and analysis software with both historical analysis and predictive functionality.” It is no surprise, then, that IDC named Oracle the leading BI vendor based on BI sales. IDC found that because the product supports “all steps of the decision-centric BI model, Oracle is well positioned to enable decision process automation in a manner similar to what the ERP vendors did with operational process automation.”

In particular, IDC singled out such Oracle Business Intelligence components as:

- **Data warehousing platform.** Includes Oracle Database 10g, with Oracle OLAP and Oracle Data Mining engines and Oracle Warehouse Builder.
- **Business intelligence tools.** Include Oracle Discoverer, Oracle Spreadsheet Add-in, Oracle Data Miner, Oracle Reports Services, Oracle BI Beans.
- **Analytic applications.** Include Oracle Daily Business Intelligence, Oracle Balanced Scorecard, Oracle Enterprise Planning and Budgeting, Oracle Activity Based Management, and Oracle Performance Analyzer.

According to IDC: “Oracle product families provide business analytics software that supports the full range of decision-centric BI needs from information delivery to advanced analytics. Oracle’s software also addresses the needs of traditional data warehousing

while at the same time breaking with conventional wisdom and delivering operational business analytics.” Would you expect anything less from the industry’s BI leader?

Case Study—Etos

Rapid growth can be exhilarating, but it also poses challenges, particularly when it comes to collecting and then disseminating accurate information in a timely way. Yet, without such information, managers at every level of the organization have difficulty performing their jobs. Ultimately, growth will suffer if a solution can’t be found.

Etos, part of the Ahold Group, is one of the largest drugstore chains in the Netherlands. The company experienced dramatic growth between 1996 and 1999, doubling in sales and in the number of outlets. Yet company managers grew concerned about their ability to make the best decisions regarding sales, customer service, purchasing, and shelf stocking.

Accurate information is essential to Etos’ success. Information needs to flow smoothly among headquarters, the distribution network, and the retail stores. The information comes from many different systems and sources, complicating the challenge. In addition, information relationships were unclear in some cases, which further complicated the challenge.

Although it is possible to piece together a system that makes disparate data sources appear as a single data source, it is a difficult, costly undertaking. It requires extensive use of various middle-

ware and complicated programming and development. Once completed, the resulting system is brittle and difficult to maintain.

Etos opted for a far simpler solution. It decided on a single data source for the rapidly growing company and selected Oracle’s database, application server, and suite of BI applications. Oracle Warehouse Builder, Oracle Portal, Oracle Reports, and Oracle Discoverer were the BI tools used to set up an enterprise data warehouse solution that enabled managers to easily access, analyze, and share business data in whatever way they needed.

Gone are disjointed data and intimidating user interfaces. Instead, managers and employees access data through the portal. Managers have access to relevant, high-quality data. As a result, they are performing better trend analysis and making better business decisions. For example, the purchasing department has an improved view of inventory, stock history, and weekly turnover, enabling it to make better replenishment decisions. Store and department managers can access employee records and store traffic data to address issues such as staffing and absenteeism.

Etos expects the payback from its Oracle investment to come quickly. The BI solution is enabling managers to cut costs substantially in several areas and boost productivity as store personnel spend less time on administration. It also is lowering overall IT costs by consolidating all the data in one place. Further savings are expected as the hundreds of weekly reports

previously sent by fax and mail are eliminated.

Key to the payback is Etos’ selection of Oracle BI. Oracle was able to integrate seamlessly with the company’s existing IT infrastructure, and Oracle’s comprehensive suite of business intelligence tools allowed the retailer to roll out the environment in phases until a complete business information infrastructure was in place. Additionally, the company could implement the business intelligence environment on a Linux operating system—a platform fully supported by Oracle—achieving high performance at considerably lower cost.

Conclusion—Better, Faster, Cheaper

A unified, comprehensive BI/BA solution like that offered by Oracle delivers better business intelligence faster and cheaper. It is better because the information is consistent—one version of the truth. It delivers the information faster, in real time and near real time if need be, giving managers the most timely information possible. And, it is cheaper because enterprises no longer have to buy, deploy, and maintain complex BI/BA environments consisting of many different products, each with its own license and maintenance fees, user interface, training requirements, and management and deployment issues.

So—how much better, faster, and cheaper? As customers have reported, the resulting BI/BA enables them to cut costs and increase productivity. Savings of over \$1 million and ROI in 18 months are not unusual.