
White Paper

Choosing a Business Intelligence Standard

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Audience: This paper is intended for information technology and business-line executives who are in the process of selecting a business intelligence standard for their organization.

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Choosing a Business Intelligence Standard

Business intelligence (BI) technology allows organizations to track, understand, and manage vital business information. BI is assuming an increasingly strategic role as more organizations look for ways to tap into the valuable data stored in their operational systems. A typical BI project has an average return on investment (ROI) of over 430%¹, but due to the fragmented implementation of these projects, organizations are unable to fully benefit from global, cross-functional information analysis.

BI standardization ensures strong ROI by reducing BI tool purchase, implementation, and training costs. These benefits are detailed in a companion white paper entitled “Reduced Costs Through Business Intelligence Standardization.”²

This white paper focuses on an important aspect of BI standardization: the criteria you should use to choose your BI standard. Each organization’s needs are different, but the criteria for a BI standard can typically be grouped into three main areas of requirements:

- **Functional capabilities.** The ability of a product to address the identified BI user needs.
- **Infrastructure requirements.** The extent to which the product meets the infrastructure needs of the organization in terms of fit with existing architecture, scalability, and extensibility.
- **Vendor criteria.** The ability of the chosen vendor to support your current and future projects in terms of stability, resources, and experience.

The following sections cover each of these areas in more detail, and explain why Business Objects is the best choice as your BI standard.

¹ International Data Corporation, *The Financial Impact of Business Analytics*.

² Business Objects, 2004. Available at <http://www.businessobjects.com>

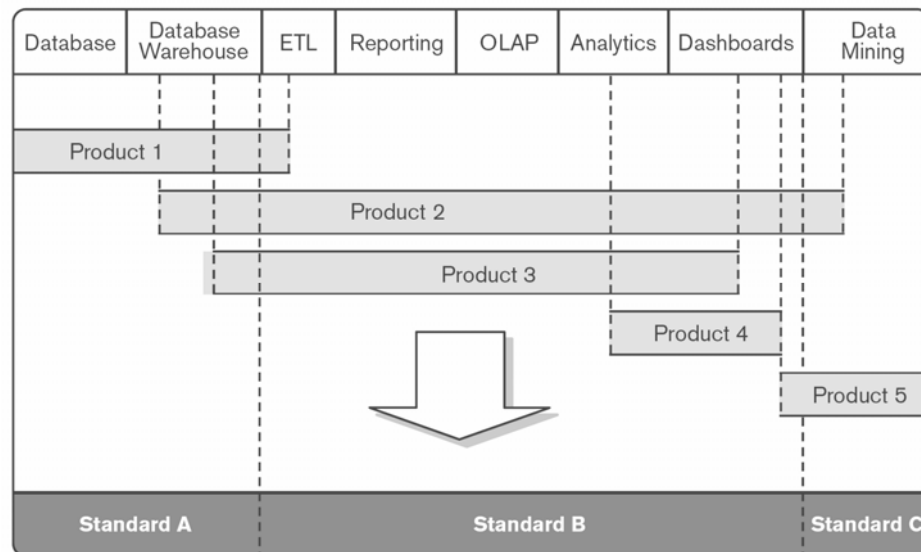
Functional Capabilities

In order to be chosen as a standard a BI suite of tools must cover as many of the identified BI needs as possible. These needs can be categorized into several areas, all of which should be weighed in order to make your final choice.

► Functional Coverage

It may not be possible to find any one suite of products that covers all your BI needs. Your goal should be to reduce the number of BI standards that you support, with as little overlap between different types of usage as possible. An illustration of this is given below.

■ *Figure 1:*
A set of unambiguous criteria should be used to reduce BI functional overlap.



In this example, five products with overlapping functionality can be consolidated into three separate standards: one for data warehousing; one for BI uses ranging from operational reporting through to dashboards; and another for more sophisticated data mining.

The BI industry is a complex one, and industry experts differ on how exactly to draw the lines between different types of BI functionality, but there is a broad consensus about the following BI software categories:

- **Database management and data warehousing software.** These products provide the functionality to store information efficiently for end-user access. Although they are sometimes viewed as separate from the rest of the BI product choice, they are clearly a foundation of the overall BI system.

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- **Data integration software.** These products are also known as extraction, transformation, and loading (ETL) software. They are designed to combine information from multiple sources to feed a database or data warehouse.
 - **Operational or embedded reporting software.** These products provide the reports for the systems used to run the organization on a daily basis. They are often seamlessly embedded into applications. Examples of operational reports include bills of lading, invoices, and payroll slips.
 - **Enterprise reporting software.** These products distribute reports efficiently to large groups of users inside or outside the organization. They include additional security, management, and distribution features that are lacking in simple operational reporting.
 - **Querying and analysis.** These products are designed to give business users and analysts autonomous and interactive information access. Users are not limited to the subset of information available in a particular report or cube, but can ask new questions and analyze any of the information stored in the database or data warehouse.
 - **Analytic applications.** These products are designed for information analysis in a particular area, such as human resources or finance.
 - **Dashboards and scorecards.** These products gather key corporate performance indicators and display them in a single interface. Typically associated with executive users, they may also support goal setting, collaboration, and standard business methodologies like Balanced Scorecard.
 - **Data mining.** These products are used for sophisticated, automatic analysis of large amounts of data with lots of different variables. Tuning and interpreting these results requires specialized expertise in statistical modeling.

You should evaluate your chosen BI standards against each of these different functional areas, and consider those that are able to effectively address multiple different needs.

► **User Profiles**

You should evaluate the different tools against the specific needs of your end users. Because there is no such thing as a “typical user,” you should first group or segment your users into different profiles. Examples of appropriate profiles may include executives, analysts, general business users, and external users such as customers and partners.

Next, you can assess if the BI standard is a good fit based on the following parameters for each user profile:

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- **Functional complexity.** Some products provide more sophisticated, powerful functionality than others.
 - **Data depth.** Some users need access to more detailed information than others. For example, executives might want highly aggregated information, while front-line employees might need detailed order data. Still other users may need access to real-time data feeds, directly from the operational systems. Because these different types of information are often stored in different systems and formats, this may affect your product choices.
 - **Data breadth.** Some users may need to compare information across different systems. It is unlikely that all the information that users want to access is neatly stored in a single data warehouse. The ability of the BI tool to do cross-functional analysis may be a determining factor.
 - **User control.** While some users need to access information directly and autonomously, others may need specially preconfigured content. Your chosen BI standard should ideally support both user types.
 - **Ease of use.** It is important that the standard BI tool enable smooth transition from basic to more sophisticated interfaces.
 - **Customization.** Some users will need more customized interfaces than others. Executives may need dashboard interfaces, or you may want to embed reports in custom applications. The ideal BI standard provides a single global framework for BI deployment, whether users access data through standard tools or customized interfaces.
 - **Business specialization.** Some users may need content or functionality that is specifically designed for a particular industry or business domain. For example, your BI standard may have products specifically designed for human resource managers or finance staff.

You should rate each product based on its performance in these areas. You may also find it useful to establish minimum acceptable criteria. Since it is rare that one product is strongest in all categories, having defined minimum values helps determine whether the product can still be an acceptable standard, even if it does not provide all the features of a rival.

► **Future Vision**

As you carry out your analysis, it is important to remember that technology markets are fast-moving. Rival products frequently leapfrog each other in functionality. Since you are choosing a long-term standard, you should also consider the release history and future technical direction of the vendors concerned.

► Why Business Objects is the Best Choice

For over a decade, Business Objects has focused on the BI needs of organizations with enterprise-wide requirements. The Business Objects suite of products provides the broadest support for different types of BI functionality for the widest range of user profiles.

■ *Figure 2:*
Business Objects
provides a broad
range of functionality
to cover the needs of
all your user profiles.



The Business Objects product line

Business Objects addresses the key needs of BI users by offering the following:

- **The standard in enterprise reporting.** Crystal Reports® from Business Objects is the worldwide standard for report authoring. Using a structured report paradigm and a desktop interface for speed-of-thought work, authors can create sophisticated reports that integrate data from an unparalleled number of different data sources ranging from network events and production systems through to relational databases. Crystal Reports seamlessly integrates with your development environment, with support for java and .Net. Reports are fully web-deployable, interactive, and searchable, with report navigation and parameterization.
- **The industry's best interactive query and analysis.** The Business Objects query and analysis tools strike the right balance of power and ease of use. Using the unique Intelligent Question interface, new and casual users can easily answer any question, and

follow up their questions with further analysis. Users can graphically slice and dice data from both relational and OLAP data sources and drill down to more details without any predefined limits. Users can then build their own multi-block reports to format their analyses.

- **Integrated enterprise performance management.** Business Objects provides a single tool for all performance management, including dashboards, scorecards, financial planning and budgeting, alerting, and a broad array of metric visualization techniques. There's full support for goals management in order to align people with strategy, with the ability to attach owners to plans, targets, and metrics. Powerful analytic and collaboration engines support group decision making and guided analysis to help managers with their next steps.
- **Prepackaged analytic applications.** Business Objects provides prepackaged metrics, reports, and analytics that cover functional areas such as customers, products and services, supply chain, human resources, and finance. Each preconfigured analytic application includes domain-focused business metrics, prebuilt dashboards and scorecards, and best-practice analysis techniques for significant insight into your business. These applications are supported by a framework that can be customized and adapted to the unique needs of each customer, providing an ideal mix of build and buy application development. The suite of applications is built on a common analytic data model, providing consistency across the enterprise.
- **Powerful data integration.** Business Objects provides powerful data integration functionality to ensure that end users have access to all the data they need. Since BI tools are most often used by BI solution administrators, they are covered in more detail in the next section.

Infrastructure Requirements

Your BI standard must meet the infrastructure needs of your organization in terms of architecture and maintenance workload.

► Architecture Standards

The chosen products must leverage your existing investments and meet your architecture standards.

- **Platforms.** Most organizations have platform standards, but it is rare to find only a single operational system across the company. Your BI standard should support multiple deployment platforms, such as Windows, UNIX, Linux, .Net, and Java.
- **Applications.** If your organization has a wide variety of different applications, from operational to analytical systems, the BI standard must access information directly from those systems. This may require specialized interfaces for standard enterprise resource planning systems such as SAP, Oracle, or PeopleSoft.
- **Databases and data warehouses.** Most large organizations have a mix of relational and OLAP data sources from different vendors. Your BI standard must efficiently and flexibly access and combine both types of information and make the best use of any proprietary database extensions.
- **Globalization.** If your organization is international, the chosen BI standard should support deployment in several languages.
- **Scalability.** The chosen BI tool should be able to provide reliable data access to large numbers of users, without excessive demands on hardware resources.

► Management Tools

You must ensure the performance and security of the system at a minimum maintenance cost. The chosen BI standard should support role-based or tiered management of various aspects of the information system.

- **Security.** Flexible, fine-grained security helps avoid the creation of separate reports for each user and ensures that results returned depend on the user's profile.
- **End-user autonomy.** Some users need full access to all the data in the database, within their security limits. The chosen BI standard should provide this option.
- **Data integration.** Organizations now realize that a standard BI system has to be able to integrate information from many different sources, with a single point of administration for changes over time.

- **Audits and tracking.** It is increasingly important to be able to track BI usage to tune, refine, and effectively maintain the information system. Your BI standard should be able to accommodate this without straining the system resources.

► **Why Business Objects is the Best Choice**

The Business Objects BI tools provide a proven, scalable, and open infrastructure, with centralized administration. It provides the following advantages:

- **An open infrastructure to support your existing IT investments.** Business Objects provides support for industry-leading standards such as Web Services, Java, LDAP, J2EE, and .Net. It also offers open connectivity to leading databases and enterprise applications, metadata exchange and sharing for adaptive BI change management, and deep integration with leading enterprise portals and desktop productivity tools. Powerful BI web services enable greater BI integration with enterprise applications and information sharing between organizations, customers, suppliers, and partners. This means that you can deploy a BI solution that seamlessly integrates with your existing infrastructure.
- **Technical integration with your infrastructure partners.** We have top-tier certification and partnerships with all the major suppliers of enterprise hardware and software to ensure that our products perform effectively in your environment.

■ *Figure 3:
Some examples of
Business Objects top-
tier partnerships with
your infrastructure
providers.*

Partner	Status
IBM	IBM Premier Business Partner IBM ServerProven, ClusterProven, TotalStorage Proven
Microsoft	Microsoft Gold Certified Partner Microsoft DataCenter, Windows 2000, Windows XP certified
Oracle	Certified Oracle Partner
PeopleSoft	PeopleSoft Global Alliance Partner
SAP	The only BI vendor to have an OEM and resell agreement with SAP SAP Global Software Partner
Teradata	Teradata Tier 1 Alliance Partner

- **Proven, scalable architecture to ensure high availability.** When you deploy a business-critical BI deployment with Business Objects, you will benefit from our scalable, extensible server architecture. The distributed multi-tiered server architecture provides load balancing and failover, ensuring high availability for end users when they access information. The information delivery system can be automated to alert users in the format of your choice when business exceptions occur.

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- **Easily managed, centralized security.** Business Objects helps you get the right information to the right people with security controls that integrate with your single sign-on standards. You can assign granular row-level security to protect sensitive information, so that different users can see different versions of the same report without having to implement administration-intensive database views.

You can tailor Business Objects product functionality to fit the specific requirements of all your users. And as their needs grow, you can enable more functions by modifying their profiles, thus evolving your BI deployment with the changing needs of your user community.

- **A semantic layer for reliable end-user access to data.** Business Objects shields end users from data complexity. Business Objects pioneered the semantic layer, which maps complex data into familiar business terms—such as product, customer, or revenue—by resolving inconsistent names, data types, schemas, and more. You can leverage existing metadata and data from your ERP, CRM, and SCM applications, with routine checks on data integrity. This provides users with intuitive cross-application analysis, while ensuring that your end users will always have access to the correct information.
- **Data integration across multiple systems.** Business Objects lets you easily combine information from multiple sources, including packaged applications like SAP, PeopleSoft, Oracle, and Siebel in both batch and real time, with a high-performance, parallel architecture. A unique interface lets you design, test, debug, edit, maintain, run, and monitor data integration jobs, using one product, one environment, and one sign-on. Built-in data preview, profiling, and debugging capabilities help you manage growing data volumes while lowering your overall system maintenance costs.
- **End-to-end business intelligence.** BI systems are never static, but need to be updated as new information becomes available. Business Objects delivers end-to-end BI integration. System managers can easily and automatically follow changes from source systems all the way through to end-user reports and management dashboards. This reduces administration workload and helps ensure that users are working with timely and accurate information in their reports and analytics.
- **A BI monitoring system.** Business Objects lets you intuitively monitor and analyze user and system activity, such as who is using specific reports and metadata objects and when, as well as server peak time. You can even track the IP addresses or browsers used. The system helps you optimize your BI deployment and investigate unexpected changes in system use or performance. It also enables you to see the impact of planned modifications to reports, metadata, or source tables, spot and track trends based on historical data, and perform ad hoc analysis of your BI system. For example, the tools can advise on the best time to increase server power and when to schedule and retire

reports. This guarantees optimal performance levels and improves the end-user experience.

Vendor Criteria

The product and architecture criteria help narrow down acceptable product choices. The final choice is often based on financial terms and your business relationship with the vendor. In the case of a large vendor with multiple product lines, the following sections should be considered in relationship to the vendor's business intelligence sales, rather than to the company as a whole.

► **Financial Stability**

The ability of a vendor to weather the storm in turbulent times can be an important factor in choosing a strategic vendor. For a global standard, you should choose a leader in the market with a steady track record.

► **Industry Analyst Evaluation**

Industry analysts such as Gartner, Meta Group, and IDC regularly evaluate the different vendors in the market and can help advise on the choice of a particular vendor or product based on your projects.

► **Worldwide Services and Support**

Successfully deploying a global standard often requires initial services and training from the vendor, at least in the initial phases. And long-term support may be required to ensure the success of projects if problems arise. If you are an international organization, the availability of local support may be a key determinant. You should also look for vendor track records in the type of BI standardization projects that you are implementing.

► **Vendor "Ecosystem"**

When deploying a global standard, you should consider not only the services available directly from the vendor, but also the extent of the vendor's network of consulting and training partners, the availability of employees with skills in the BI technology, and the number of other companies that are using the products. The greater the extent of this "ecosystem," the more likely you are to be able to find extra project resources when needed, and the more likely it is the vendor will remain a leader in the future.

► **Relationships With Your Other Standards**

You should choose your BI standard from a vendor who has good partnerships with your existing strategic suppliers such as Microsoft, SAP, Oracle, IBM, or PeopleSoft.

► Your Installed User Base

When choosing a standard, you should give preference to first-tier products that are already widely installed and used within the organization.

► Why Business Objects is the Best Choice

Business Objects has been a pioneer and leader in the BI market for over a decade and is a safe choice for your enterprise standard.

- **The market leader.** Business Objects is the leading independent BI vendor worldwide in terms of revenue and is recognized as a market leader by analyst organizations such as Gartner, Meta Group, and IDC.
- **The most support and development resources.** Business Objects has over 2,000 development and customer support employees worldwide.
- **The most partners.** Business Objects has over 400 OEM partners worldwide. Microsoft, SAP, and other key enterprise software providers have chosen to bundle our tools with their market-leading products. More consultants, strategic integrators, and potential employees know our products better than any other vendor's.
- **The most experience.** Business Objects has the most experience in helping organizations around the world implement BI standards, with over 30,000 customers in 80 countries.
- **Dedicated tools and services.** Business Objects has consulting and training teams worldwide that are dedicated to helping organizations like yours successfully implement BI standards. We work with you to get buy-in from the business units and avoid the typical challenges faced by BI implementations. We can help you investigate your readiness for enterprise standardization, with industry-leading techniques including the BI Index³ and BI Maturity Workshops.

■ *Figure 4:
Some of the leading
organizations that
have implemented BI
standards with
Business Objects*

ABN Amro	City of Calgary	Opodo	Total
Allergan	Deutsche Telekom	PepsiCo	Tribune Company
Burger King	France Telecom	Redback Networks	TruServ
Consolidated Container	Fujitsu Siemens	Sabre	US FDA
Coors Brewing	Hutchison 3G UK	Simon & Shuster	US DoD
Company	Maritz Travel	Sumitomo	Volkswagen AG
Cutter & Buck	Nortel	Telecom Italia	

³ See <http://www.biindex.com> for more information

Conclusion

In order to make a sound BI standard decision, you should evaluate products according to three main criteria:

- **Functional capabilities.** The ability of a product to cover the identified BI user needs.
- **Infrastructure requirements.** The extent to which the product meets the infrastructure needs of the organization, in terms of fit with existing architecture, scalability, and extensibility.
- **Vendor criteria.** The ability of the chosen vendor to support your current and future projects, in terms of stability, resources, and experience.

When comparing products, you should not only look at the total score in these areas, but also at the distribution of the scores. The ideal choice for BI standard is a product that meets or fulfills the users' needs in each category—a product that does very well in one or two areas but does not meet minimum requirements in the others will not typically be a good choice.

The Business Objects suite of BI tools provides an ideal balance of ease of use and functionality for end users, and control for IT. It is backed up by the industry's leading BI vendor, with over a decade of enterprise deployment experience.

For more information about the practical aspects of implementing BI standards, please visit our web site at www.businessobjects.com/products/bistandardization.

► **www.businessobjects.com**

For a complete listing of our sales offices, please visit our web site.

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