

REPORTING and DASHBOARDS with Cognos 8 Business Intelligence



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The Value of Reporting

The business value of reporting is simple: it communicates and helps you understand your company's performance. It leads you to take action on recent information. It creates a common context for decision-making across every department and at every level. At its best, reporting is an integral part of performance management.

IT departments can be challenged in delivering these simple values to a wide variety of users with different needs, and from a wide variety of different data sources. The limitations of reporting technology, such as its traditional inability to address these requirements in concert, prevents the much-discussed but seldom delivered 'single view of the truth' modern organizations need.

As a stopgap solution, many companies use separate reporting tools for different capabilities and styles of reporting. The reporting tool is often dictated by the structure of the underlying data. Different metadata structures and data architectures make it hard for IT to ensure data consistency. Maintaining multiple reporting applications means a higher total cost of ownership (TCO). Vendor-specific security models limit scalability and network performance. Each reporting application has its own performance limits, which forces networks to work at the lowest common denominator. This means other enterprise components such as ERP systems, databases, or application servers aren't being used to their full value. End-users need to switch back and forth among applications to answer a single question. IT struggles with a constant backlog of requests for new and modified reports because most reporting solutions have an all or nothing approach to functionality, or because they don't allow business users to create or modify reports themselves.

Addressing these challenges has been anything but simple.

The business perspective

For business users, the right reporting software is simply the solution that lets them work with information the way they want to. It means accessing relevant information is fast and easy. You are confident that the numbers you see are the same

throughout the organization. The reports you receive are presented in context so you can make informed decisions rather than lose time debating what action to take.

Teamwork is a regular part of solving business problems; reporting software must let people collaborate and share information at any stage of the reporting lifecycle. Teams are composed of workers with different roles and abilities; business users need a reporting interface that reflects their needs rather than a generic one for highly technical users.

The right reporting software for business people removes the limits to fact-based, better business decisions.

The view from the server room

Adding to the existing enterprise reporting pressures on IT is the requirement to cut spending. According to CIO Magazine's 2004 "State of the CIO" survey, IT's impact on an organization is to reduce the cost of doing business through efficiency gains and increased productivity. Cost cutting remains the major focus for CIOs. These conclusions were reached in a year when the average IT budget fell from 6.3 percent to 5.6 percent of total revenue¹. IT departments are being told to do more for their organizations with less.

Fortunately, the barriers to efficient enterprise reporting also point to the solution. To reduce their total cost of ownership, organizations can benefit from a single reporting software application that reduces the complexity of the reporting environment for IT while delivering more for the organization's business users. A complete reporting solution needs to:

- Recognize and accommodate different kinds of users.
- Provide complete coverage for all types of reports.
- Access all enterprise data, regardless of the source.
- Provide intuitive search capabilities that quickly bring relevant BI information to the user.

Reporting With Cognos 8 Business Intelligence

In 2003 Cognos introduced new reporting software, Cognos ReportNet™, built on a Web services-based architecture. The open, modern architecture of ReportNet was its key innovation, and key to its value for both business users and IT. ReportNet bridges the worlds of pixel-perfect production reporting and highly flexible business reporting. It promises and delivers a single product for all reporting requirements, with simplified deployment, maintenance, and integration; drag-and-drop ease of use; multilingual reporting; and many other innovations.

From the time of its release Cognos ReportNet has been phenomenally successful. It addresses the pent-up demand among customers looking for a single reporting product to meet all of their reporting needs enabling a consolidation of redundant capabilities. Because of this, many organizations have selected Cognos ReportNet as their reporting standard.

With Cognos 8 Business Intelligence, this same Web services architecture has been extended beyond reporting to include all BI capabilities: analysis, scorecarding, event management, and ETL functions. Cognos 8 BI is the only BI product to deliver the complete range of BI capabilities on a single, proven architecture.

Reporting with Cognos 8 BI embodies more than 30 years of experience working with the largest companies in the world. Reporting with Cognos 8 BI can develop any and all types of reports—from simple inventory lists to high-volume billings and high-impact business dashboards. It meets the needs of every kind of user—from simple report consumers to professional authors and developers. And it smoothly integrates into your existing IT infrastructure to leverage its value, without creating the need for additional security, data storage, or redundant environments

Reporting with Cognos 8 BI gives authors the ability to create reports containing any number of report objects—charts, cross tabs, and lists, as well as non-BI components such as images, logos, and live embedded applications that can be linked to the information. This has allowed organizations to extend the boundaries of traditional reporting, giving them unprecedented ways to view their business performance. Reports can be built with multiple data queries. Each query can draw data from any data source or a combination of sources and be linked together in context or left as independent. Users can arrange report objects by dragging and dropping them into the report authoring window. Report layout automatically adapts and rearranges as report objects are added or removed. Casual or novice users can author and modify their own reports with minimal training or IT involvement. The flexibility of the task-based interface reduces the time required to author and modify a report.

Reporting with Cognos 8 BI makes departmental reporting easy and complex global reporting simpler. Global enterprises can bring divisions, departments, and international organizations together so they are all working from the same information. You can extend the power to create, distribute, and modify reports to everyone across your organization. Cognos 8 BI offers complete reporting from a single BI reporting capability, provides advanced authoring abilities that match user needs, and operates on a proven, Web services architecture.

Complete Reporting Coverage

IT departments have identified the barriers they face when supplying every kind of enterprise report, to every kind of user. Reporting with Cognos 8 BI addresses these requirements by:

- Recognizing all user types.
- Adapting to any data source.
- Supporting all report types.
- Providing intuitive search functionality.

Recognizing all user types

In the typical enterprise, your role dictates the type of information you need and the format in which it is required. Users operate on a continuum ranging from basic report recipients to the IT Administrators who support all BI capabilities and users. Between these two extremes are executives that need at-a-glance understanding of the business; managers that need to report on, analyze, and track performance metrics; and professional report authors who create and modify complex reports. Complete enterprise reporting coverage means that one reporting system has the flexibility to let each group work with information the way that they want to, without being overwhelmed by excess capabilities. Report recipients can easily access and share reports in their own working language, business managers can drill into reports and collaborate with other users, executives get business dashboards for at-a-glance summaries of critical information. Reporting with Cognos 8 BI recognizes and adapts to each user's needs. Its task-based interface offers enough functionality to avoid overwhelming the casual user, and sufficient power to serve the sophisticated needs of an expert. Having the right interface for the right user drives adoption.

Adapting to any data source

Reporting with Cognos 8 BI gives you access and visibility across heterogeneous data sources whether relational or OLAP. For instance, a single report may be sourced from multiple relational warehouses, instances of SAP BW, IBM CubeViews, PeopleSoft deployments, and real-time XML data. You can create reporting applications in a development environment and deploy them on production databases. Database connections can be dynamically set at report runtime based on user prompting or session parameters. This data source flexibility gives organizations a

comprehensive view of their business through their reports. Cognos 8 BI gives you visibility into all of these data sources:

- Relational databases from IBM, Oracle, Microsoft, Teradata, and Sybase, various sources accessible via ODBC
- Widely deployed ERP systems, including mySAP (R/3), PeopleSoft Enterprise, JD Edwards EnterpriseOne, Oracle eBusiness Suite, and Siebel CRM
- Enterprise data warehouses and marts, with both 3NF and star schemas
- All widely used OLAP sources, including IBM DB2 OLAP Server, Cognos PowerCubes, Microsoft SQL Server Analysis Services, SAP BW, Oracle 10G, and Essbase
- Modern data sources, such as XML, LDAP, and WSDL
- Planning and budgeting data
- Satellite data sources, including Excel files, PowerPoint files, Access files, flat files, and more
- Mainframe sources, including VSAM, IMS, IDMS, Cobol copybooks, and others
- Content management data, including FileNet, Documentum, OpenSoft, and others.

Reports can draw on any combination of these data sources giving users the complete view of the business issue. Data integration is a core capability within Cognos 8 BI. You can choose your preferred approach for data access including direct connections to data sources; embedded or third party enterprise information integration technologies (EII) for real time access; or using metadata from extraction, transformation, and loading (ETL) processes.

BI users need a reporting capability that can report against multidimensional as well as relational data. Cognos 8 BI offers an open data strategy. This allows sophisticated reporting with bursting, scheduling, and other features from either relational or multidimensional sources. Cognos 8 BI has a single application server rather than separate servers for reporting, analysis, and scorecarding. This means fewer applications servers for IT to manage.

Dimensional Awareness – When used with dimensional data, query and reporting capabilities provide automatic recognition of hierarchies and

automatic drill-up and -down for both text reports and charts, without the need for authoring by the user. Queries on OLAP “cubes” and dimensionally modeled relational data can be enabled for drilling-up and -down on each dimensional hierarchy.

Supporting all report types

A reporting standard is one product delivering all reporting requirements: from ad hoc queries, managed, business, and dashboard reports, to invoices, statements, and bills. The former reports require high usability and interactivity, and are built with individual users in mind. The latter require sophisticated formatting, high scalability, and are batch-oriented.

Reporting with Cognos 8 BI addresses both families of requirements. It delivers a zero-footprint, browser-based interface for all reporting functionality. It eliminates the need for IT to install and manage client desktop software. The easy-to-use interface ensures users can access and work with the reports they require to be effective in their job.

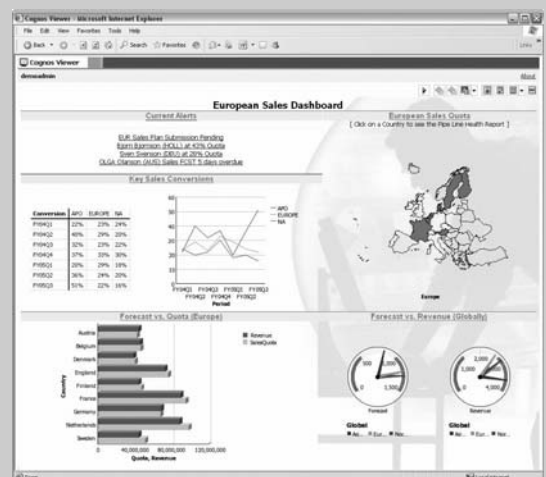
Better access modes

Effective use of BI means putting it in the hands of a broad range of users and bring it into the familiar working environments they use each day. As part of the ongoing innovation around Cognos 8 BI, Cognos recently announced three new access modes that do just that. Cognos 8 Go! Search helps users easily and instantly find strategic BI information within Cognos 8 BI and their enterprise search environments. Cognos 8 Go! Mobile delivers interactive BI information to mobile workers via their Blackberry®. Finally Cognos 8 Go! Office lets users access, view, and interact with Cognos 8 BI reports, analyses, and metrics within Microsoft® Excel®, PowerPoint®, and Word applications.

High Impact Visualizations

In addition to accessing and distributing the right data, effective reporting software must also present business information in a variety of formats for ease of understanding and exploration. Reporting with Cognos 8 Business Intelligence provides rich visualization options that can be combined to create interactive reports for maximum visual impact. You can create dashboard reports that use geographic or spatial maps to present data in different forms such as cities, countries, building floor plans, seats in an airplane, or parts of the human body. These can be combined with interactive charts such as gauges, horizontal progress charts, and combination charts. Since charts are typically used to integrate different data, authors can build multiple queries into the same chart as well as individual portions of a chart. You can drill-up or -down through chart elements to see the big picture or the essential detail. Administrators can take advantage of the multilingual abilities of Cognos 8

BI to create dashboards that appear in each user’s working language. Like all other reports available with Cognos 8 BI, dashboards draw on the full variety of relational and OLAP data sources.



Offer rich dashboard visualizations from a single authoring solution

Advanced Report Authoring

Traditionally, BI reporting software has focused on the needs of professional report authors or “power users” despite the group’s small size in the average enterprise. For maximum value and the lowest TCO, advanced reporting software needs to support not just these experts, but also the full range of business users. This means easy-to-use, self-service reporting for everyone that needs to author reports, and support for a team-based approach to reporting that allows groups to collaborate when creating reports. Today’s global enterprises require report authoring that supports multilingual report distribution so the whole business can benefit from new information. Companies that deliver these advanced authoring abilities will expand the user base for business reporting beyond professional authors and improve their organization’s decision-making ability.

Self-service reporting

The point-and-click approach of reporting with Cognos 8 BI means business users can create and enhance reports more quickly and ensure a more timely distribution of information. Removing any barriers between queries and reports simplifies overall authoring. Users can share information faster by reusing queries and report objects created by others. Sharing responsibility for report creation with others in the organization eases the reporting workload for IT. The self-service reporting capabilities of Cognos 8 BI allow business users to:

- Build ad hoc reports that draw on multiple, heterogeneous data sources.
- Distribute reports and dashboards with personalized content for each recipient from a single report using automatic prompt controls.

- Schedule simultaneous or sequential batch reporting jobs for multiple output formats, destinations, and views.
- Distribute reports on-demand or according to schedule based on time, calendar, events, or an external trigger.
- Distribute reports through event management notifications when business conditions occur that require immediate action.
- Choose viewing preferences for the reporting interface including language or other preferences based on geography such as time, currency, and data formats

Collaborative workflow

Between identifying the need for a report and delivering the finished product, users may share ideas, suggestions and modifications, and authoring experience and skills. Cognos 8 Business Intelligence removes the limitations on collaborative report development experienced with different reporting products and interfaces for the various report types or users. With a single query definition, you can deliver collaborative report development to people with different roles, experience levels, and from different areas of the company.

The single architecture for viewing, querying, analyzing, and authoring means business users can work together on any report. A business manager can author a simple ad hoc report and pass it to a professional report author for improvements such as pagination or additional report objects and complex data query constructs. Once complete, the business manager can distribute the finished report to the intended recipients.

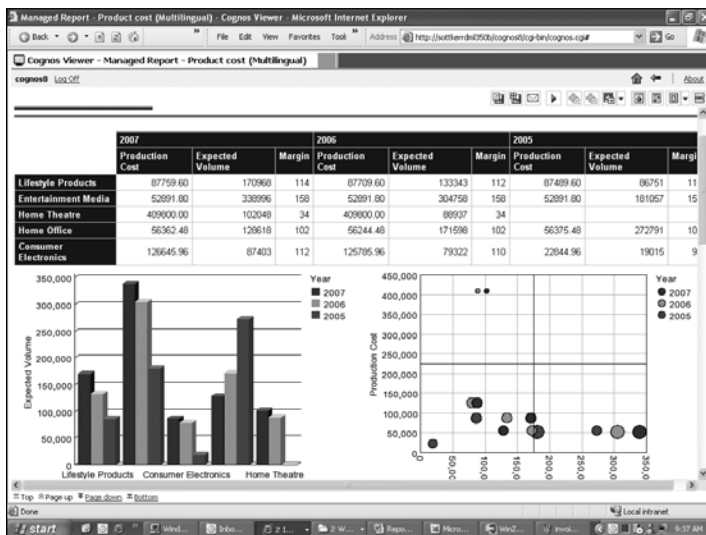
Adaptive Flow Authoring

Most banded report writing applications follow a rigid linear format that forces users to use archaic methods such as: custom coding and duplication of files (one per language), if-then-else statements to modify the format per language, and over-layer text strings with if-then-else formatting options to hide all but one overlay. Few solutions address issues such as prompt controls, formula language syntax, UNICODE, or special word wrapping. Producing reports in different languages often means producing a series of reports or translating them afterwards. Report writers typically display individual source data records, which may result in hundreds or thousands of records. Presenting this large amount of data is unusable to the end user and costly for network bandwidth and performance. Cognos 8 BI solves these problems through adaptive flow authoring. Instead of creating specifically targeted and rigid reports for small groups of users, report authors can create a report once and then deploy it for use across the enterprise. With adaptive flow authoring,

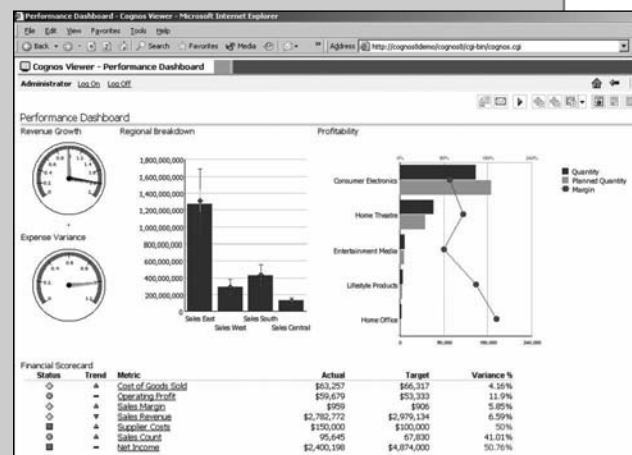
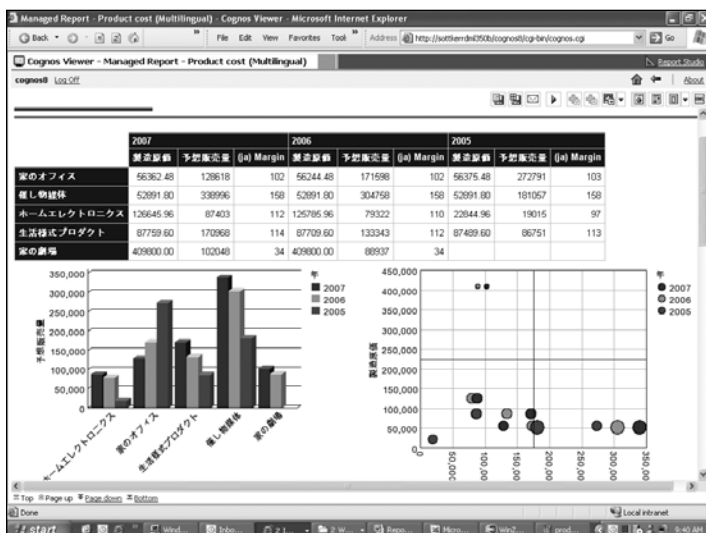
objects are arranged top-to-bottom in your reports. Just like a word processor document or Web page, when you create a report with Cognos 8 BI, it is automatically resized for the layout that best suits each end user. This includes a wide variety of potential output devices and displays ranging from a typical desktop monitor to hand held computers. This sophisticated drag-and-drop report layout and formatting is controlled using tables and table cells. In a process similar to HTML authoring, report authors can nest tables inside tables. Users see just as much information as is required for their own needs, and have just as much functionality as is required to modify the report. Prompts can be configured to appear as “Wizards” to help users through the steps required to modify their reports. Users become more self-sufficient. Adaptive flow accelerates report distribution, expands the potential user-base for each report, and makes modification of existing reports as easy as drag-and-drop.

Multilingual distribution

Reporting with Cognos 8 Business Intelligence supports multiple languages from a single metadata layer, out-of-the-box. Report authors can define which report elements need to adapt to each recipient’s working language including the user interface and report content. These are automatically detected by Cognos 8 BI and displayed appropriately across supported languages.



The same pixel-perfect production cost rendered in English and Japanese



Create complex reports with drag and drop simplicity

Proven Web Services Architecture

The reporting capability takes advantage of the purpose-built Web services architecture upon which Cognos 8 BI is built:

- Modern, multi-tier architecture is built using open, modern Web standards such as XML, SOAP, and WSDL.
 - Single API lets programmers customize, expose, or hide any BI capability using any programming language (e.g., Java, Visual Studio, .Net, C, C++).
 - Peer-to-peer, multithreaded architecture provides a distributed environment with automatic load balancing, no single point of failure, and server independence.
 - Component-based with the flexibility to distribute components geographically, across servers, firewalls, etc. according to the needs of the business.
 - Completely scalable to hundreds of thousands of users to support a globally distributed organization.
 - Reports, dashboards, analysis, scorecards, and business event management rules are written once and deployed globally to reduce reporting backlog.
- Integrates easily with Web portals such as IBM WebSphere, SAP NetWeaver, Plumtree, and WSRP-compliant portals.
 - Supports Windows, Unix, and Linux operating systems in uniform and mixed platform deployments.
 - Supports numerous standards and data sources without the need for coding or data migration.
 - Delivers full flexibility to support complex mixed application environments.

Leverage your existing IT infrastructure

One of the goals of standardized reporting is reducing the total cost of reporting, or the cost per report incurred by your organization. While saving money on reporting, IT must ensure that the reporting investment doesn't cost people, time, or money in other areas. At the same time, IT must also make the most of their existing investments. To deploy a single, enterprise-wide reporting solution, you must be able to leverage your existing IT investments and get further return on these investments. Reporting with Cognos 8 BI integrates into your existing IT infrastructure:

- Leverages your existing IT assets and infrastructure, including security systems, RDBMS, application servers, Web applications, networks, and metadata.

Single metadata layer for all reporting

Regardless of the variety of reporting your organization performs, all reporting data passes through a single metadata layer common to Cognos 8 Business Intelligence. The metadata layer manages translation from the data you need to the information you see. This presents a single, business-friendly view of information to the user while modeling data from different sources.

Scalable by design

Few companies are eager to expand their reporting to hundreds of thousands of users if it means implementing an ERP-sized application. Cognos 8 BI was built from the ground up to work with the data volumes of global organizations. It can scale to hundreds of thousands of users without placing undue stresses on your existing IT infrastructure. It works with your existing application and Web servers, portals, browsers, enterprise applications, platforms, and databases. Its fully documented API makes integration with your infrastructure simple. You can customize the reporting interface to suit your organization.

The Clear Choice For Standardization

Following the launch of ReportNet in 2003, analyst firm Butler Research commented: "It is our opinion that in ReportNet, Cognos has created an architecture that not only delivers robust and scalable reporting solutions, but which can act as a future platform for the organization's entire BI/CPM strategy."

Reporting with Cognos 8 BI builds on the promise of this architecture and extends it to all business intelligence capabilities. A global organization can now choose one product to consolidate its previously stand-alone capabilities of reporting, analysis, dashboards, scorecarding, and more. This single BI product not only provides more utility for fewer resources, it's the clear choice for business intelligence standardization.

Many technology companies claim this is what they deliver. Typically, however, they are offering loosely integrated components that may share some services, or a common portal in front of disparate products, or basic-level interoperability among a mix and match of quite separate products (often the result of various acquisitions).

Cognos 8 BI is the only solution that provides complete enterprise reporting, and complete BI functionality, in one product, on a single, proven architecture.

Summary

As they strive to decrease their costs and the complexity of their reporting environment, IT managers have been looking for a single, Web-based reporting solution that can address all of their reporting needs. They require a flexible solution that leverages existing IT infrastructure, is truly scalable, and has the ability to grow. Reporting with Cognos 8 BI is that solution.

IT administrators, professional authors, business managers, executives, and BI consumers can all add

value through the multiple windows Cognos 8 Business Intelligence opens into all your corporate systems and data. IT can deliver complete reporting to all users with one business intelligence product—making it simpler, faster, and easier to manage.

Cognos 8 BI means reporting is no longer complex for IT or business users. This is enterprise reporting at its best, and an important step on the road to corporate performance management.

About Cognos

Cognos is the world leader in business intelligence and enterprise planning software. Our solutions for corporate performance management let organizations drive performance with planning and budgeting, monitor it with scorecarding, and understand it with enterprise business intelligence reporting and analysis. Cognos is the only vendor to support all of these key

management activities in a complete, integrated solution. Founded in 1969, Cognos today serves more than 23,000 customers in over 135 countries. Cognos enterprise business intelligence solutions and services are also available from more than 3,000 worldwide partners and resellers.

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