

Gaining Insight with IBM Cognos Business Intelligence V10.1

IBM Redbooks Solution Guide

Organizations can meet strategic objectives and take advantage of real value for the business thanks to IBM® Cognos® Business Intelligence. Cognos Business Intelligence delivers the information that everyone in the organization needs and reduces the burden on IT. By implementing Cognos Business Intelligence, your organization can solve business problems, improve its competitive position, better manage business, and identify opportunities for future growth and success. Cognos Business Intelligence has many common and successful uses, including graphical analysis and reporting as shown in Figure 1.

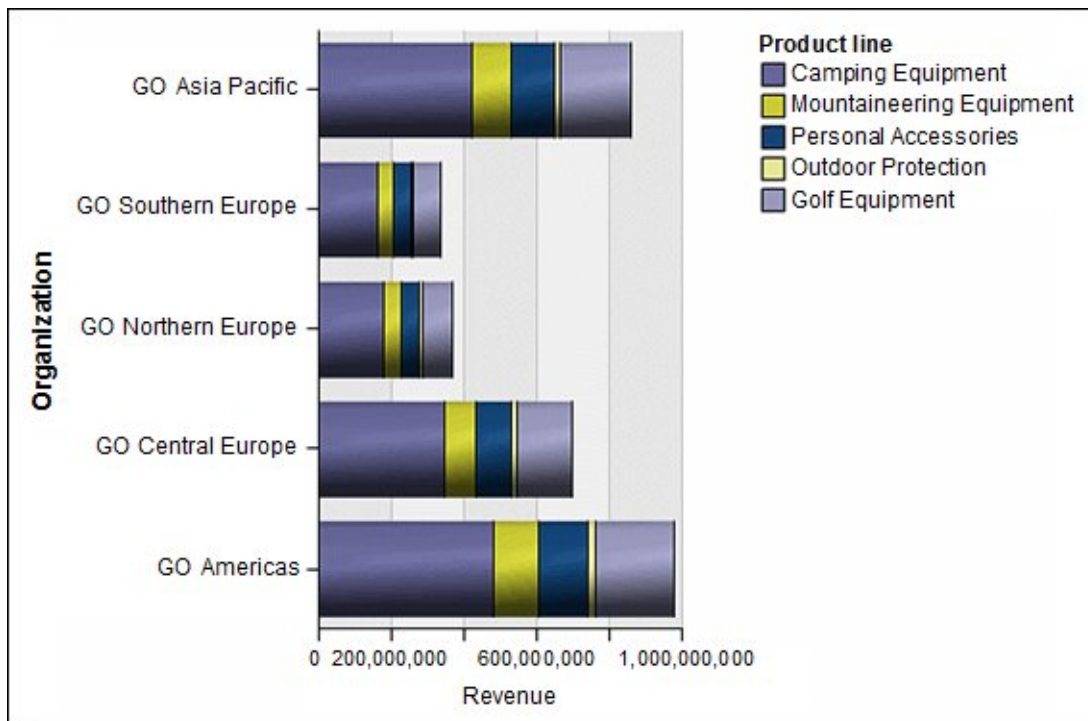


Figure 1. Sample Graphical Analysis and Reporting chart

Did you know?

Over 50 years ago, Hans Peter Luhn of IBM Germany coined the phrase "business intelligence (BI)." He defined it as "the ability to apprehend the inter-relationships of presented facts in such a way as to guide action toward a desired goal." Over one quarter of businesses plan to use BI with the cloud.

Business value

IBM Cognos Business Intelligence provides a unified workspace for BI and analytics that the entire organization can use to answer key business questions and outperform the competition. With Cognos Business Intelligence, users can take advantage of the following capabilities:

- Easily view, assemble, and personalize information
- Explore all types of information, from all angles, to assess the current business situation
- Analyze facts and anticipate tactical and strategic implications by shifting from viewing data to performing more advanced, predictive, or what-if analysis
- Collaborate to establish decision networks to share insights and drive toward a collective intelligence
- Provide transparency and accountability to drive alignment and consensus
- Communicate and coordinate tasks to engage the right people at the right time
- Access information and take action anywhere, taking advantage of mobile devices and real-time analytics
- Integrate and link analytics in everyday work to business workflow and process

Organizations need to make the most of a workforce that is increasingly driven to multitask, network, and collaborate. Cognos Business Intelligence delivers analytics that everyone can use to answer key business questions.

Solution overview

IBM Cognos Business Intelligence includes web-based user interfaces and user interfaces that are based on Microsoft Windows. These user interfaces provide a BI experience that focuses on the needs of different users.

IBM Cognos Business Insight

With IBM Cognos Business Insight, you can create sophisticated interactive dashboards by using IBM Cognos content and by using external data sources such as IBM Cognos TM1® Websheets and CubeViews, according to your specific information needs. You can view and open favorite dashboards and reports, manipulate the content in the dashboards, and send your dashboards by email. You can also use comments and activities for collaborative decision making and use social software, such as IBM Connections, for collaborative decision making.

IBM Cognos Report Studio

IBM Cognos Report Studio is a robust report design and authoring tool. By using IBM Cognos Report Studio, as a report author, you can create, edit, and distribute a wide range of professional reports. You can also define corporate-standard report templates for use in IBM Cognos Query Studio and edit and modify reports that are created in IBM Cognos Query Studio or IBM Cognos Analysis Studio.

IBM Cognos Query Studio

By using IBM Cognos Query Studio, if you have little or no training, you can quickly design, create, and save reports to meet reporting needs that are not covered by the standard, professional reports that are created in IBM Cognos Report Studio.

IBM Cognos Analysis Studio

With IBM Cognos Analysis Studio, you can explore and analyze data from different dimensions of the business. You can also compare data to spot trends or anomalies in performance. IBM Cognos Analysis Studio provides access to dimensional, online analytical processing (OLAP), and dimensionally modeled relational data sources. You can open analyses that were created in IBM Cognos Analysis Studio in IBM Cognos Report Studio and use them to build professional reports.

IBM Cognos Event Studio

In IBM Cognos Event Studio, you set up agents to monitor your data and perform tasks when business events or exceptional conditions occur in your data. When an event occurs, people are alerted to take action. Agents can publish details to the portal, deliver alerts by email, run and distribute reports that are based on events, and monitor the status of events. For example, a support call from a key customer or the cancellation of a large order might trigger an event, sending email to the appropriate people.

IBM Cognos Metric Studio

In IBM Cognos Metric Studio, you can create and deliver a customized score carding environment for monitoring and analyzing metrics throughout your organization. Users can monitor, analyze, and report on time-critical information by using scorecards that are based on cross-functional metrics.

IBM Cognos Administration

IBM Cognos Administration is a central management interface that contains the administrative tasks for Cognos Business Intelligence. It provides easy access to the overall management of the IBM Cognos environment and is accessible through IBM Cognos Connection.

IBM Cognos Framework Manager

IBM Cognos Framework Manager is the IBM Cognos Business Intelligence modeling tool for creating and managing business-related metadata for use in Cognos Business Intelligence analysis and reporting. Metadata is published for use by reporting tools as a package, providing a single, integrated business view of any number of heterogeneous data sources.

Solution architecture

IBM Cognos Business Intelligence delivers a broad range of BI capabilities on an open, enterprise-class platform. All capabilities, which include viewing, creating, and administering dashboards, reports, analysis, scorecards, and events, are accessed through web interfaces.

The IBM Cognos Platform delivers the capabilities to manage BI applications with centralized, web-based administration. It provides a complete view of system activity, in addition to system metrics and thresholds so that organizations can resolve potential issues before a business impact occurs. The IBM Cognos Platform is built on a web-based service-oriented-architecture (SOA) that is designed for scalability, availability, and openness. This n-tiered architecture is made up of three server tiers:

- The web tier
- The application tier
- The data tier

The tiers are based on business functions and can be separated by network firewalls.

Reliability and scalability were key considerations when designing the IBM Cognos Platform. Services in the application tier operate on a peer-to-peer basis, which means that no service is more important and that there are loose service linkages. Any service of the same type, on any machine in an IBM Cognos Platform configuration, can satisfy an incoming request, which results in complete fault tolerance. The dispatching (or routing) of requests is done in an optimal way, with automatic load balancing built into the system.

The IBM Cognos Platform provides optimized access to all data sources, including relational data sources and online analytical processing (OLAP), with a single query service. In addition, this query service detects and takes advantage of the data source strength. It uses a combination of open standards, such as SQL99, native SQL, and native MDX, to optimize data retrieval for all of these different data providers. The Cognos Business Intelligence user interfaces are accessed through the web tier. Figure 2 illustrates a typical topology of the Cognos Platform.

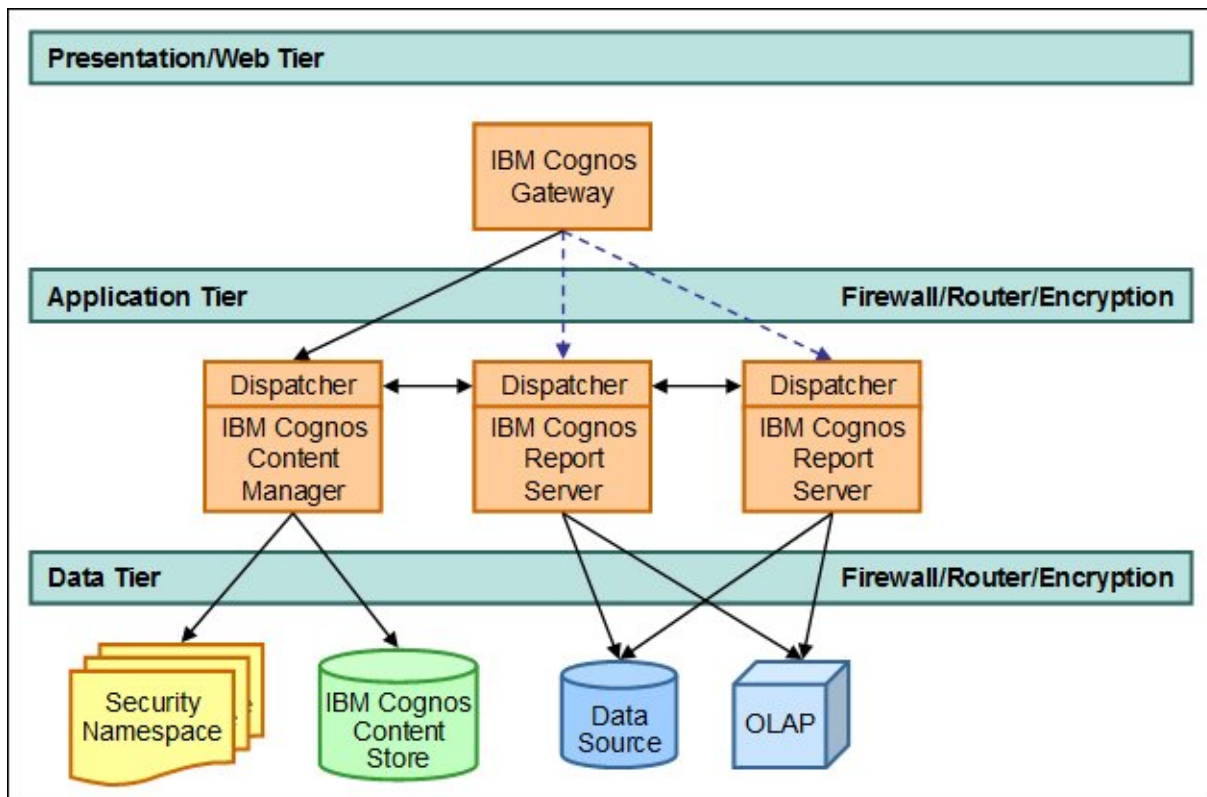


Figure 2. Typical distributed topology of the IBM Cognos Platform

Usage scenarios

By using IBM Cognos Business Intelligence, companies can create dashboards that provide insight to address questions such as the following examples:

- Are we selling the right products?
- Have we been growing our profit margin?
- Have we had a considerable number of returns?
- How many units of a product should we buy by each period of the year?
- How does the performance of our business compare to last year?
- How does the performance of our business compare to what we planned?

- Can we add meaningful information about our competitors?
- How successful are our promotions?

Personas

In a business analytics scenario, companies must consider multiple personas:

- Advanced Business User
- Professional Report Author
- Modeler
- Administrator
- Analyst
- Business User

For more information about how these personas can use IBM Cognos Business Intelligence to gain insight, see Chapter 3 of *IBM Cognos Business Intelligence V10.1 Handbook*, SG24-7912. For an example of the level of detail about each persona, see the description of the Advanced Business User persona in the next section.

Advanced Business User persona

The Advanced Business User persona has a deep understanding of the business needs and a good understanding of technology. The Advanced Business User persona leads the interpretation of business requirements and creates reports to answer business questions. The Advanced Business User persona has the following business needs:

- Get the right advice to senior management
- Be self-sufficient
- Look at a problem from different angles
- Use tools that integrate seamlessly and allows full collaboration with colleagues
- Get things done quickly
- Trust the data

The following solutions can help the Advanced Business User persona meet business needs:

- IBM Cognos Business Insight

The user can create and change dashboards to organize the information. The user can also take advantage of interactive exploration and analysis, apply filters, and sort and change the display type to discover meaningful details about the information. In addition, the user can collaborate with insights about the business performance.
- IBM Cognos Business Insight Advanced

The user can easily create reports, perform interactive exploration and analysis, apply filters, sort and group data, add calculation and statistics, add external data, and create additional objects to existing reports.
- IBM Cognos Query Studio

The user can create simple reports with relational and dimensional data models, by using calculations, filters, groups, and sorting.
- IBM Cognos Report Studio

The user can create professional reports with advanced features, such as prompts, multiple objects, and advanced queries.
- IBM Cognos Analysis Studio

The user can easily perform interactive exploration and analysis on dimensional data models.

- IBM Cognos Analysis for Microsoft Excel
The user can perform flexible, interactive exploration and analysis of multidimensional data into Microsoft Excel.
- IBM Cognos Metric Studio
The user can align tactics with strategy and monitor performance with scorecards.
- IBM Cognos Mobile
The user can use reports and dashboards from a friendly interface on mobile devices.
- IBM Cognos Planning
The user can insert and update plans and actual data.
- IBM Cognos TM1
The user can insert and update plans and actual data

Integration

You can integrate IBM Cognos Business Intelligence and solutions from the IBM Cognos portfolio. By using the integrated solutions, you can have a complete corporate performance management solution as a single product, with integrated data and functions that seamlessly connects forecast, metrics, actual data, and reports.

IBM Cognos TM1

Complex planning, analytics, and real-time reporting to high levels of detail with millions of items require the power of IBM Cognos TM1. The OLAP 64-bit technology of Cognos TM1 meets even the most complex, multidimensional analytics needs of large-scale operations. So, you can query data when you need to, no matter how vast the data set might be. In addition, you can view instant updates from streamed data and drill through to transaction systems for added context and, thus, greater accuracy in decision making.

IBM Cognos TM1 addresses all interrelated planning, analysis, and reporting needs with the following capabilities:

- Exceptionally fast analytics
- Data and user scalability
- Data integrity
- A multidimensional database and data tools
- Workflow
- A choice of interfaces, including Microsoft Excel, the web, and the IBM Cognos TM1 Contributor for managed participation

IBM Cognos Planning

Planning, budgeting, and forecasting are critical financial management processes in most organizations. These processes are critical because they enable organizations to define strategic goals, to create tactical plans, and to track the progress of achieving those plans and goals.

IBM Cognos Planning provides the capabilities to create long-range strategic plans, intermediate-range budgets, and short-term or continuous forecasting. These functions exist within inter-connected models that are fed from as many planning participants as an organization needs to include in the planning process.

By using Cognos Planning, you can maximize the accuracy and efficiency of the planning, budgeting, and forecasting processes that are provided by the following capabilities:

- Aggregation and consolidation of planning data in a centralized location
- Scalability for large amounts of plan contributors, large and complex plan models, and large amounts of plan data
- Increased plan accountability through visual workflow status indicators and full audit tracking capabilities
- Powerful user features, such as Breakback (goal allocation), external data linking, data validations, commentary, versioning, and dimensional pivoting and nesting for analysis
- Separate environments for development and production that allows continuous server uptime even when incorporating structural changes to the planning model during a planning cycle
- Automated administration capabilities to reduce costs and maintenance
- Integration with IBM Cognos Business Intelligence solutions for full reporting, analysis, and scorecard capabilities

Cognos Planning has the following major components:

- IBM Cognos Planning Analyst
- IBM Cognos Planning Contributor

IBM Cognos Planning Analyst

IBM Cognos Planning Analyst is a powerful business modeling tool that financial specialists can use to create models for planning, budgeting, and forecasting. These models include the drivers and content that are required for planning, budgeting, and forecasting. The models can then be distributed to managers by using the web-based architecture of IBM Cognos Planning Contributor.

IBM Cognos Planning Contributor

IBM Cognos Planning Contributor streamlines data collection and workflow management. It eliminates the problems of errors, version control, and timeliness that are characteristic of a planning system that is solely based on spreadsheets. Users can submit information simultaneously through a simple web or Microsoft Excel interface. By using an intranet or secure Internet connection, users review only what they need to review and add data where they are authorized.

IBM Cognos Controller

The ability of an organization to close its books, consolidate its accounts from all operations and partnerships, and prepare accurate and auditable financial statements is critical to maintaining credibility with existing and potential investors and financial markets. Adding to that challenge is that many times an organization has disparate financial information systems within various operating divisions and geographical areas. To meet these requirements and to handle new governance and financial reporting standards, organizations can rely on IBM Cognos Controller.

A key component of the IBM Cognos performance management platform, IBM Cognos Controller is a comprehensive, web-based solution that offers power and flexibility for streamlined, best-practice financial reporting and consolidation, all in one solution. With Cognos Controller, financial organizations can prepare financial information and analyze and then investigate and understand it in a centralized, controlled, and compliant environment. IBM Cognos Controller supports IFRS, FASB, Basel II, and Sarbanes-Oxley requirements and can handle any GAAP or regulatory environment, all from a single application. It also enables individual segment reporting by customer, product, or market, and generates an extensive audit trail to satisfy the needs of external and internal auditors.

IBM Cognos Controller includes the following features:

- Web-based, fully scalable for any size organization
- Flexible processing of modifications to corporate and account structures and group histories
- Integrated scenario manager for simulation and modeling
- Real-time reconciliation of internal balances in data input
- Allocations that are automatically included in consolidation with status
- Extensive process monitoring and control
- Practical, automatic report book generation and distribution
- Support for IAS, IFRS, US GAAP, local GAAPs, and other regulatory requirements
- Standard reporting that provides information about financial performance for business stakeholders and managers
- Financial and management measures and metrics for scorecards, dashboards, and analytics

Supported platforms

For information about software environments that are supported in Cognos Business Intelligence V10.1, see the following Cognos Business Intelligence 10.1 Software Environments page at: <http://www.ibm.com/support/docview.wss?uid=swg27019126>

Ordering information

Table 2 highlights the IBM Cognos Business Intelligence programs.

Table 2. Program numbers

Program number	Program name
5724-W12	IBM Cognos Business Intelligence V10.1.1
5724-W68	IBM Cognos Business Intelligence PowerPlay® V10.1.1
5724-W19	IBM Cognos Business Intelligence Reporting V10.1.1
5724-W13	IBM Cognos Data Manager V10.1.1

Related information

For more information, see the following documents:

- *IBM Cognos Dynamic Cubes*, SG24-8064
<http://www.redbooks.ibm.com/abstracts/sg248064.html?Open>
- *IBM Cognos Business Intelligence V10.1: Intelligence Unleashed*, REDP-4693
<http://www.redbooks.ibm.com/abstracts/redp4693.html?Open>
- IBM Cognos Business Intelligence 10.1.0 Information Center
<http://pic.dhe.ibm.com/infocenter/cbi/v10r1m0/index.jsp>
- IBM announcement letters and sales manuals
http://www.ibm.com/common/ssi/index.wss?request_locale=en

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