IBM Cognos Business Intelligence V10.1
Intelligence Unleashed

Redguides
for Business Leaders

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- Take advantage of IBM Cognos BI implementations

- Realize the full potential of IBM Cognos BI

- Understand core features of IBM Cognos BI V10.1

Redbooks

Executive overview

Organizations are pressured constantly to understand and react quickly to information. In addition, the complexity and volumes of data for all aspects of the environments in which organizations operate is increasing. Markets, regulatory environments, customer and supplier data, competitive information, and internal operational information all impact how data is viewed and interpreted.

With a capable and efficient business intelligence (BI) solution, all levels of an organization can receive information how, when, and where they need it to make faster and better aligned decisions. Every user can have access to all the capabilities of the BI solution, and often organizations can determine a user's business need to access information using typical characteristics that are defined by that user's role.

For example, executives want at-a-glance views to data that is structured and presented so that they can assess the state of the business quickly and understand where to focus their attention. Similarly, business managers want quick views of their scope of information with the added ability to dive into more detail to take action. Financial and business analysts want the freedom to explore and see fresh perspectives without being constrained by preformatted IT reports. Employees and more casual users want simple and understandable reports that can be scheduled to arrive on a frequency that enables them to take action, and can be easily personalize the format of data and the frequency that data is received. Finally, customers and partners want easily consumed information so that they manage their relationship with your organization efficiently.

Thus, BI must satisfy a multitude of different information needs, from summary to detail, from sales to finance, from inventory to human resource data. BI must also meet a diverse set of interaction needs from simple viewing of key metrics, to highly formatted reports such as invoices, to a self-serve drag of information onto a page for exploration. With a successful BI implementation, each user is satisfied with the information received and with the features and functions needed to accomplish the job—and yet no more.

Many organizations often satisfy this complexity and these diverse demands with a number of point solutions. With IBM® Cognos® Business Intelligence (BI), you can satisfy needs throughout the user community and ensure that everyone can work and collaborate from a consistent set of data. In addition, IT is simplified with fewer components to deploy, manage, and maintain.

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IBM Cognos BI provides a unified workspace for Business Intelligence and Analytics. This workspace is easily accessible to everyone in the organization. The workspace allows users to answer key business questions and to outperform the competition.

The IBM Cognos BI solution provides the following capabilities:

► Easily view, assemble, and personalize information

► Explore all types of information from varying angles to assess the current business situation

► Analyze facts and anticipate tactical and strategic implications by shifting from viewing information to more advanced, predictive, or what-if analysis of information

► Collaborate to establish decision networks to share insights and to 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

► Take 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 multi-task, network, and collaborate. IBM Cognos BI delivers analytics that everyone in the organization can use to answer key business questions.

This IBM Redguide™ publication highlights features of IBM Cognos BI version 10.1.

Analytics that everyone can use

Using analytics to answer key business questions

Often, business users do not know how to get at needed information, and the available tools might not provide the freedom to combine and explore information in the way that they want. IBM Cognos BI version 10.1 delivers a unified workspace so that individuals in the organization can see more information and do more with that information. IBM Cognos BI provides features that allow business users to view, assemble, and personalize information easily so that they can follow a train of thought and generate a unique perspective. Using a single place to quickly see a view of the business, users can personalize content, build on others' insights, and incorporate data from a variety of sources. These capabilities ensure that more people are engaged in providing unique insights and in delivering faster business decisions. In addition, giving business users greater self-service control reduces demands on IT and business intelligence systems.

If a separate tool is required, it can be difficult to incorporate statistical results with core business reporting. IBM Cognos BI allows business users to consume fact-based statistical evidence to support key decisions directly in the IBM Cognos BI environment. The ability to explore all types of information from all angles to assess the current business situation provides a deeper understanding of the patterns that exist in data. This capability allows business users to deliver reports that include statistical insight and validation and to distribute these reports to the larger business community.

Business users need tools that let them accurately evaluate and identify the impact that different scenarios have on the business and on the bottom line. IBM Cognos BI allows the business user to analyze facts and to anticipate strategic implications by shifting from viewing data to performing more advanced predictive or what-if analysis. Understanding the scenarios

that affect business enables the business user to make informed recommendations and provides an increased competitive advantage.

Figure 1 shows an example of an IBM Cognos Business Insight dashboard, providing business users with information to better understand their business.
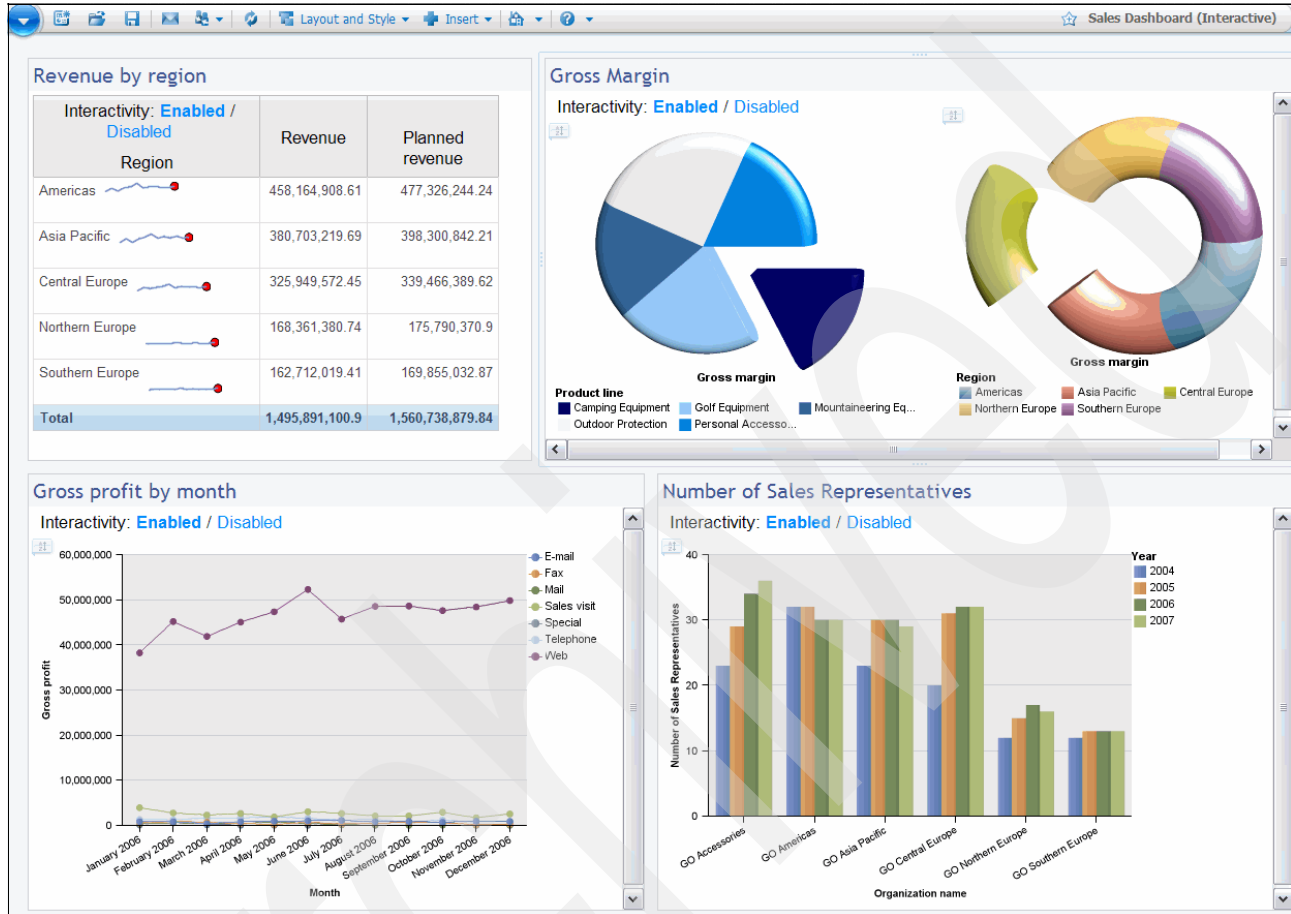

Figure 1   IBM Cognos Business Insight example dashboard

Self service interface for business users

IBM Cognos Business Insight Advanced provides a single, integrated environment for advanced business users who need to do more than consume reports and dashboards that are authored for them. This solution does not require you to use different user interfaces depending on whether the data is dimensional or relational and whether your primary task is report authoring or data exploration. You can use it to author new reports on relational or dimensional data. With IBM Cognos Business Insight Advanced, you can create and format a wide variety of reports, including lists, cross tabs, charts, and financial statement style reports. In addition, you can used it for OLAP exploration and can mix exploration and authoring activities seamlessly without switching interfaces or modes.

IBM Cognos Business Insight provides more flexible use of dashboards and reports. For example, you might need to create new reports or explore data from scratch to answer a new question. However, often there is an existing report or dashboard that you can customize to answer the question. The integration of IBM Cognos Business Insight Advanced into the IBM Cognos Business Insight solution makes it easy to find that existing report or dashboard.

You can use IBM Cognos Business Insight Advanced by itself or as part of the broader IBM Cognos Business Insight solution. When used as part of IBM Cognos Business Insight, you use the dashboard mode of IBM Cognos Business Insight to create, share, consume, and explore interactive dashboards. Then, to perform deeper analysis or to customize the look of a report, you select a single report on the dashboard and move to IBM Cognos Business Insight Advanced. There, you can perform more advanced data exploration and customization, such as the addition of measures, conditional formatting, and advanced calculations.

On completion of the advanced work, you can return to the IBM Cognos Business Insight dashboard mode where the dashboard now shows your customized and extended content.

Figure 2 shows an example report within IBM Cognos Business Insight Advanced.
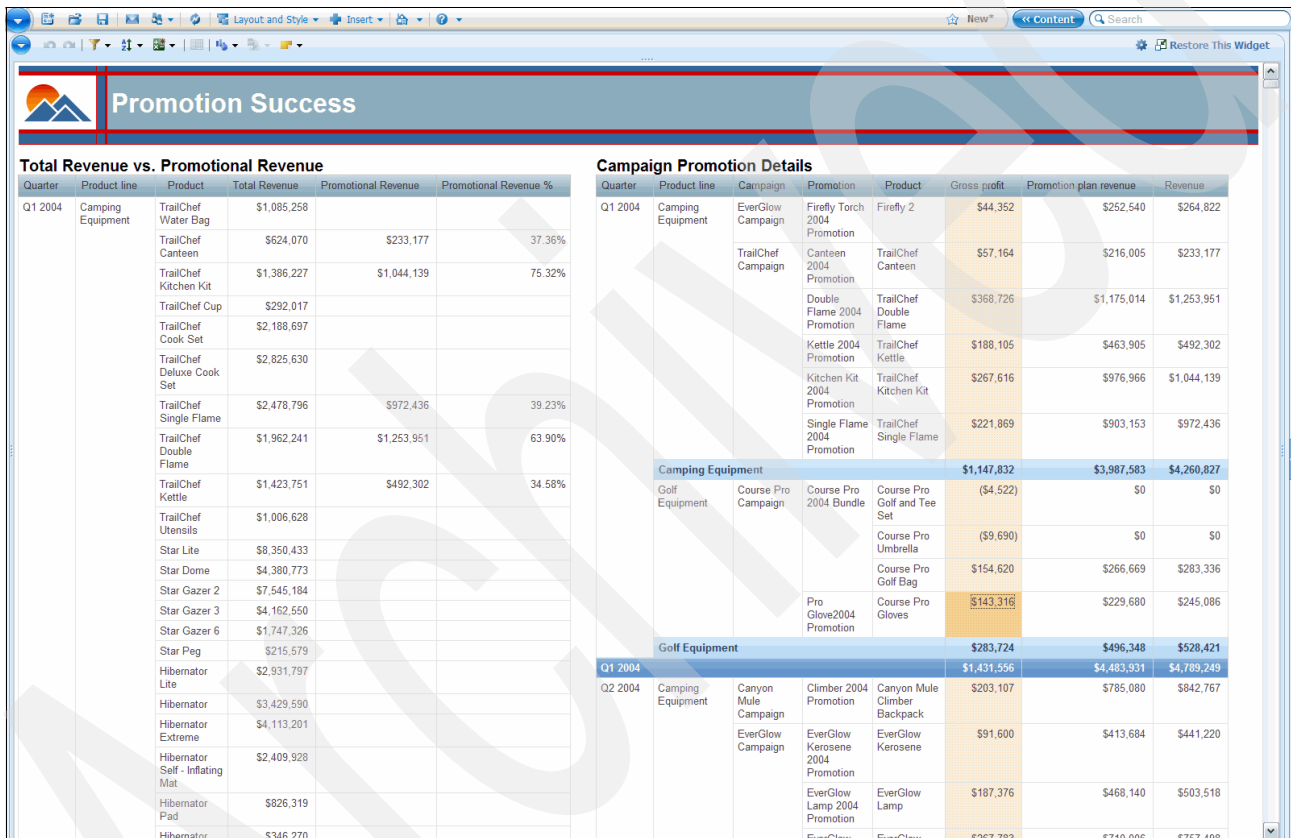

Figure 2   IBM Cognos Business Insight Advanced example

Advanced support for charting

In IBM Cognos Business Insight Advanced, you can create reports that contain charts to communicate summaries and trend data quickly using visualization. You can create and customize charts in IBM Cognos Business Insight Advanced, and you can insert a specific chart type from any report. When you insert a chart into a report that already contains a list, the list data is added to the chart automatically.

Support for both dimensional and relational data sources

IBM Cognos Business Insight Advanced extends data access through support for both dimensional and relational data sources, providing a seamless authoring experience no

matter what the data source. You can use it with packages that contain relational data, dimensional data, or a combination of the two.

Data exploration in IBM Cognos Business Insight Advanced

The user interface for IBM Cognos Business Insight Advanced is designed for data exploration as well as authoring. It enables you to mix authoring and exploration activities seamlessly when working with data. When working with dimensional data sources, you can drill up and down in a report, and you can perform additional exploration actions.

Use your own external data in IBM Cognos Business Insight Advanced

You can supplement enterprise data with you own external data file. You can import text, spreadsheet, and other personal files from your computer into IBM Cognos Business Insight Advanced and create reports that contain your own data or a combination of your own data and enterprise data. This capability allows you to build reports and dashboards that combine trusted enterprise data with external, departmental, or transient data sources, without the need to ask your administrator to set up additional data source connections. After import, your external data file is protected by the same IBM Cognos security as your enterprise data, thus allowing you to report on your data in a secure environment.

Easily lay out report pages

With IBM Cognos Business Insight Advanced, you can create a wide variety of reports. You can create reports that contain multiple views of the same data to communicate different aspects of the data quickly through visualizations and text. You can design report pages using a variety of layout options, such as columns, rows, or quarters. Your report objects then fit into the report sections.

A report consumption experience that supports exploration

You want to access and use information that drives your decision processes in a simple visually compelling application. You need a level of capability that suits you needs but that can be expanded as skills and information requirements change.

The decisions that you make often require changes to the view on the information. These changes can be minor, such as changing the way data is sorted, or more complex, such as using an existing report as the starting point for a new report. You want to change the view quickly to address you questions, to find results, and then to take action. You do not want to wait for a report author to make minor changes for you. IBM Cognos Business Insight was developed to meet these needs.

IBM Cognos Business Insight provides an integrated business intelligence experience for business users. This web-based tool allows you to use IBM Cognos content to build sophisticated interactive dashboards that facilitate collaborative decision making. These dashboards can include traditional business intelligence assets, along with IBM Cognos Real Time Monitoring information, TM1® Websheets and CubeViews, and external data.

Features from IBM Cognos Go! Dashboard and IBM Cognos Viewer are now merged into one user interface. This combination brings information consumption, rather than viewing and opening folders, to the forefront of the experience. IBM Cognos Viewer and IBM Cognos Connection are still available and maintained in this release.

The intuitive user interface provides a breadth of capability in one place rather than a depth of capability in any one area. The user interface is visually attractive, easy to use, and interactive.

IBM Cognos Business Insight includes the following key features:

► Free-form layout of dashboard elements

► Interaction that allows you to sort, filter, and group data, to perform calculations, to change display types, to customize the palette, and to add comments

► On-demand menus and toolbars that are activated automatically when you select them with the mouse

► Seamless round-trip integration with IBM Cognos Business Insight Advanced that allows for more advanced exploration and enhancement options for the objects included on the dashboard

► Define flexible and powerful data filters

► Easily summarized data and work with calculation functions, such as total, count, average, minimum, and maximum

Integrated statistical insight

IBM Cognos Statistics, powered by IBM SPSS, provides analysts with the ability to distribute reports with statistical insight to the larger business community, further expanding the breadth of reporting capabilities provided by IBM Cognos software. Whether it is obtaining additional insight into key business variables or predicting future outcomes, IBM Cognos Statistics provides the necessary fact-based statistical evidence to support key organizational decisions.

Because IBM Cognos Statistics is integrated seamlessly into IBM Cognos Report Studio, analysts no longer need to extract standardized trusted data from their BI data warehouse into a separate tool to conduct and report on statistical information. Analysts can now assemble reports that contain statistical information easily and distribute the information throughout the enterprise saving valuable time. The statistical capabilities provided by IBM Cognos Statistics are powered by the trusted market leading IBM SPSS statistical engine, enabling you to make the most of best-in-class analytics within your organization.

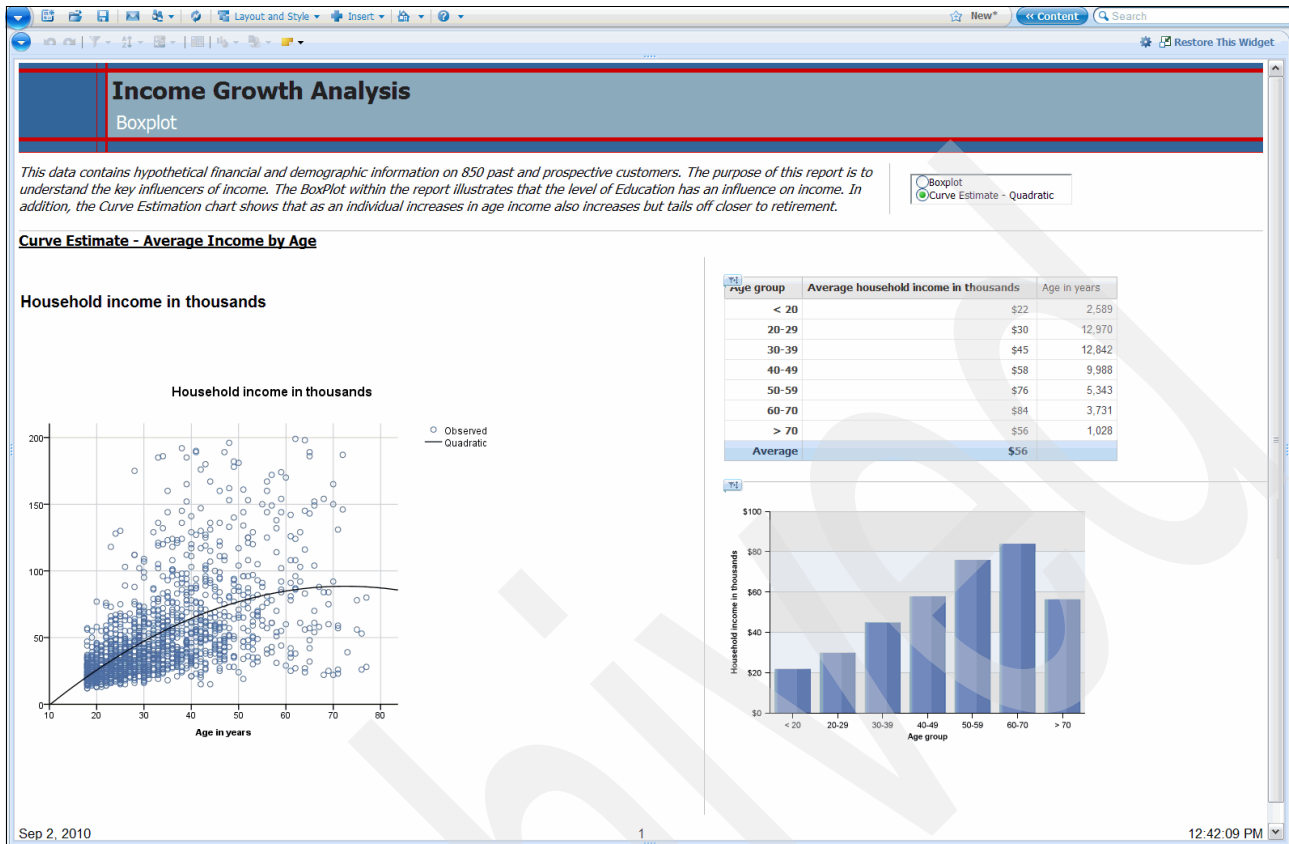Figure 3 shows an example of an IBM Cognos Statistics driven report.

Figure 3   IBM Cognos Statistics example report

Statistical Process Control

Statistical Process Control (SPC) can help organizations to increase profitability through the reduction of errors, waste, and overall time spent within the process. With the introduction of SPC features, organizations can now consistently measure, monitor, and analyze variations in business processes using IBM Cognos Statistics, while also taking advantage of the existing IBM Cognos BI content and infrastructure.

IBM Cognos Statistics is ideal for organizations that embrace Six Sigma. It provides a wide range of SPC capabilities, including control charts such as X-bar charts and P-Charts, metrics such as process capability, process performance indices, and the ability to flag exceptions using control rules. In addition to sharing statistical insight through IBM Cognos Report Studio, organizations can also monitor and share the results of their critical business processes easily through dashboards created by IBM Cognos Business Insight.

Data analysis and testing

In today's competitive environment, it is important to recognize the factors that influence business outcomes and understand the relationships between key business variables. Without knowing the relationships within the data, analysts and decision makers are not aware of the ripple effects that changes can have, and it is difficult for them to test their assumptions. IBM Cognos Statistics addresses this problem by providing key statistical tests. Statistical analysis techniques exposed in IBM Cognos Report Studio include regression, correlation, t-tests, chi-square, and ANOVA tests.

Insight into the distribution and shape of data

In conducting and communicating statistical analysis, it is important to understand the shape and distribution of your data. IBM Cognos Statistics provides several features to help you understand the shape of your data.

Visualizations, such as a histogram, can provide quick insight into the distribution of a data set to identify whether the data is normally distributed, as in a bell curve, or skewed. Alternatively, a *boxplot* can uncover anomalies within the data set that, if not identified, can distort the results of your analysis. IBM Cognos Statistics also provides *descriptive statistics* such as mean, standard deviation, variance, and skewness to provide a fast and easy way to access basic statistics about your data set.

Enhanced charts

Chart enhancements concentrate on improved effectiveness of communication. The new bullet chart and extensions to pie and gauge charts are especially beneficial in dashboard reports. IBM Cognos BI charting functions provide a superior presentation experience through conditional notes and markers and enhanced legends.

Bullet charts

You can create bullet charts to complement your dashboard reports and as an alternative to gauge charts. A *bullet chart* features a single primary measure, such as current revenue. It compares that measure to one or more other measures, such as the target or planned revenue, and displays it in the context of a qualitative range of performance, such as poor, satisfactory, or good.

Chart matrix

You can convert a complex nested chart into a *matrix* configuration that shows multiple small charts arranged in rows and columns. The numeric scale of all the charts is the same so that you can compare and analyze values from each chart easily.

Customize the legend

You can hide or show the *legend* and change its position relative to the chart object or chart area or by using a specific report expression. If there are items in your legend that are too long, you can truncate them at a specific number of characters. You can also show the values of the data items in your legend. Legends can display trend lines and conditional item entries.

Enhanced pie charts

You can customize how data labels shows in a *pie chart*, including the format and placement of the data. You can make pie charts that are easier to read and analyze using the following features:

- ► Pull out pie slices from the rest of the pie to highlight them
- ► Set the position at which the first slice in a pie chart appears
- ► Summarize the smaller slices in a pie chart to avoid having many tiny slices in your pie.

Enhanced chart styles

You can create a new chart palette or edit an existing one by changing *styles* such as colors, fill types, and patterns.You can add drop shadows to chart elements, such as lines in line charts. You can customize the color, style, and weight of chart grid lines or set the background of your chart to display bands of color.

Chart axis

To make your charts easier to read, you can customize the color, style, weight, and transparency of *chart axis lines* and specify where to display major and minor grid lines on the chart.

Color by value in scatter and bubble charts

In *scatter* and *bubble charts*, you can specify data to appear in different colors based on the data values. The color of the points or bubbles adds an additional aspect to the chart to assist you in finding relationships in large amounts of data. The legend identifies the values represented by each color. In a bubble chart, you can set the maximum and minimum bubble size and specify the smallest bubble to show in the chart.

Positioning and formatting notes

When you add a note to a chart, you can set the note's *position* relative to the sides of the chart area or chart body. You can also use a report expression to position the note next to a data item within the chart. For example, in a bar chart showing revenue for each product line by country, you could type `[Country]='Canada'` to position the note relative to the Canada bar. You can also customize the background of the note with color and background images.

Actionable everywhere

Bringing insight to the point of action

Organizations need to enable business users to make the best decisions and to act on these decisions promptly. IBM Cognos BI version 10.1 delivers insight where it is needed so that organizations can learn and impact more by delivering the freedom to take advantage of the following functions:

- ► Adopt mobile solutions to accelerate delivery of interactive analytics
- ► Address challenges of compressed decision cycles with real-time analytics
- ► Integrate analytics in everyday work and in the workflow to inform business processes

Organizations can enable the business to respond to changing business conditions.

Active reports

IBM Cognos Report Studio has a new active report output type that provides a highly interactive and easy-to-use managed report. Active reports are built for business users, allowing them to explore their data and derive additional insight, even while disconnected from the IBM Cognos BI servers.

Active reports are an extension of traditional IBM Cognos reports. Authors can upgrade existing reports and enable them to be interactive, providing users with an easy to consume interface. Similar to existing IBM Cognos reports, you can run active reports from IBM Cognos Connection and then schedule and burst them to users.

Business intelligence for everyone

Enabling access for more people, IBM Cognos BI includes features to help you create reports that are more accessible to people with a physical disability, such as restricted mobility or limited vision. When creating reports using IBM Cognos Report Studio and IBM Cognos Business Insight Advanced, you can complete the following tasks:

► Add alternative text for non-text objects, such as images and charts
► Add summary text for crosstabs, lists, and tables
► Specify whether table cells are table headers

When using IBM Cognos Business Insight or IBM Cognos for Microsoft® Office, report consumers can complete the following tasks:

► Navigate without a mouse using arrow keys and function keys

 For more information, see the *IBM Cognos Business Insight User Guide*.

► Use any combination of high contrast system settings and browser minimum font settings to control the display

 For example, when you set the operating system to high contrast, graphic icons are replaced with text icons for easier viewing.

► Use the Freedom Scientific JAWS screen reader

 Note: JAWS is supported only with the Mozilla FireFox browser for this release of IBM Cognos Business Insight.

► Switch from graphs to tables and control the palette settings to meet specific accessibility needs

IBM Cognos BI provides the ability to enable accessible output at many levels. You can enable accessible output by report or choose to enable accessible output for all reports using a user preferences setting. Administrators can control assessable output as a server-wide option, so that all reports for all IBM Cognos users have accessibility features enabled. Accessibility settings in the user preferences and report properties overwrite this setting. For more information see the *IBM Cognos Connection User Guide* and the *IBM Cognos Administration and Security Guide*.

For accessible report authoring recommendations, visit the Human Ability and Accessibility Center at:

http://www-03.ibm.com/able/

IBM Cognos Mobile

IBM Cognos Mobile provides timely and convenient access to IBM Cognos BI information from a mobile device. This function provides decision makers with access to business critical information wherever they are and whenever they need it.

Support for Apple iPhone and Apple iPad

IBM Cognos Mobile supports Apple iPhone and Apple iPad devices. You can use familiar Apple iPhone actions to access the same business intelligence content and IBM Cognos Mobile features that have been available on other devices in previous releases. In addition, you can create a list of favorites. You can select one dashboard or report to display automatically on the Welcome window when you start IBM Cognos Mobile.

Enhanced RIM Blackberry user interface support

IBM Cognos Mobile supports the enhanced RIM BlackBerry user interface for both older RIM BlackBerry editions and RIM BlackBerry OS 4.2 and higher, including RIM Blackberry Storm and RIM Blackberry Curve devices. The new user interface is easier to navigate than the traditional interface and provides an improved overall experience when accessing BI content.

Support for IBM Cognos Business Insight

Along with reports and analyses, IBM Cognos Mobile users can have dashboards that were created in IBM Cognos Business Insight delivered to their devices.

Improved prompting

IBM Cognos Mobile provides enhanced prompting in the web application for the Apple iPhone. Prompting no longer uses only prompt identifiers but can now include the surrounding text and formatting that desktop users see. You can run prompted reports intuitively using prompting mechanisms that suit the mobile device.

Drill up and drill down

IBM Cognos Mobile offers drill up and drill down capabilities. These features allow you to gain additional insight into the information that you are consuming. You can see on which fields within the BI content on your devices you can drill up or drill down. After drilling up or drilling down on one or more of these fields, you can return to the original report where you began the drilling process.

Collective intelligence

Connecting people and insights

Organizations need more agile and responsive decision making processes to effectively respond to market opportunities and challenges. IBM Cognos BI version 10.1 delivers collaboration and social networking for groups to engage more and align more by delivering the freedom to complete the following tasks:

► Establish decision networks to share insights and to 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

Organizations can engage workgroups to easily collapse the time to align, decide, and act. Organizations need more agile and responsive decision making processes to respond effectively to market opportunities and challenges. IBM Cognos BI provides tools that support collaborative business intelligence and workflow, allowing organizations to share insights and gain alignment.

Establish decision networks

Teams that do not share insights or solicit input from colleagues limit the ability to make informed decisions. IBM Cognos BI helps teams establish dynamic decision networks, connecting people to information and other people, and drive toward a collective intelligence. Efficient decision networks reduce the time, expense, and resources required to gather information.

Provide transparency and accountability

You must fully understand and trust the data that you use to make business decisions. You need to understand what has happened to data from its source to the report. IBM Cognos BI features ensure that all user communities have the same understanding of data, providing transparency and accountability to drive alignment and consensus. When you understand and are confident about the information that you use, IT spends less time dealing with questions about data.

Data lineage support

Consumers and report authors can take advantage of the strength of both IBM Cognos Lineage Viewer and IBM InfoSphere™ Metadata Workbench.

You can configure a single environment to take advantage of both the ease of deployment and maintenance of the IBM Cognos Lineage Viewer and the exploration and analysis power of IBM InfoSphere Metadata Workbench. A new entry point for IBM InfoSphere Metadata Workbench allows you to take advantage of IBM Cognos Lineage Viewer for report and model information and enables the ability to launch the IBM InfoSphere Metadata Workbench to view ETL, source data, and impact analysis information.

Communicate and coordinate tasks

Actionable insights are often lost because it is not easy to capture the insight as a task. IBM Cognos BI provides the tools that teams need to communicate and coordinate tasks to engage the right people at the right time. Any member of a team can initiate a task and assign activities to the appropriate team member. The team can track activities from creation to closure to ensure better business outcomes.

New collaboration capabilities

The new collaboration capabilities in IBM Cognos Business Insight support business users by providing a bridge between using IBM Cognos BI to discover a business problem and acting to resolve it.

Decision making is often a team activity. Individuals create and receive reports, perform analysis, and monitor dashboards. When the time comes to act on this information, individuals come together with colleagues to make decisions. In addition to collaborating through email, phone calls, and meetings, you can now collaborate while creating or viewing reports, performing analysis, or monitoring dashboards.

You can collaborate using IBM Cognos Business Insight using the following methods:

► Using comments
► Using activities

You can also use the additional enterprise social software capabilities in IBM Lotus® Connections.

Comments

Comments, also referred to as *annotations*, allow you to collaborate on the content of a report on a dashboard. You can add simple comments to a report so that other users who view the same report have additional context or information about the report. Those users can respond with further comments about the report.

This type of collaboration is useful, for example, to add a reminder to investigate low sales figures for a particular product, or to explain an anomaly in the data that might be a cause for concern.

The comments feature of IBM Cognos Business Insight differs from the existing IBM Cognos BI option that allows report users to add comments to a saved report. When you upgrade from a previous release, comments in saved reports are maintained, but the comments are not upgraded to the new IBM Cognos Business Insight comments format.

Activities

An *activity* is a web-based collaboration tool for collecting, organizing, sharing, and reusing work that is related to a goal. Members of an activity interact in an online location in which they create, collect, and share a set of ideas and resources to support a goal.

An activity is a way for you to organize your work and collaborate with others in a shared web space. Because it is easy to invite new members, you can gather the right people and the resources that you need quickly to get the job done. You can post messages, share files and links to websites, and create and assign to-do items.

Activities are part of IBM Lotus Connections and are integrated with IBM Cognos Business Insight. Activities are a key part of IBM Cognos Business Insight. When individuals identify business problems and opportunities using IBM Cognos BI, they often need to collaborate to share information with colleagues and to make team-based decisions. With activities, you can collaborate on the content of an entire dashboard and solve the problems or capitalize on opportunities in a faster and more structured way.

For example, you might have previously collaborated with another colleague, using comments to indicate low sales figures for a particular product. You then decide that a more detailed investigation about the sales figures is required to resolve the problem. You can set up an activity that involves collaborating with other team members, so that you can track the history and outcome of that activity in a single place. Using activities for collaborative decision-making can facilitate the whole decision-making process.

Activities created in IBM Cognos Business Insight provide the following capabilities:

► A single place to gather each participant's ideas and opinions

► A link to the IBM Cognos Business Insight dashboard so that teams can conduct further analysis as required

► A single historical record of how issues are resolved and how decisions are reached

► A method to track and audit decisions and initiatives

► A method to include all stakeholders and interested parties in the decision-making process

► A record that can be viewed by people who join the activity after it has started to quickly understand its history

IBM Lotus Connections

You can use the social software for enterprise capabilities provided by IBM Lotus Connections to collaborate with colleagues outside of the dashboard. For example, having used the collaboration capabilities on the dashboard to investigate low sales figures for a product, your team might conclude that a new marketing campaign is required to promote the product. You could use Lotus Connections to set up a wiki, and to collaborate using a Lotus Connections community.

With Lotus Connections, you can do the following tasks:

- ► Set up a networking profile
- ► Set up and join communities
- ► Create blogs
- ► Bookmark your favorite websites
- ► Create activities
- ► Share files
- ► Create wikis

Enhanced BI event management and workflow

IBM Cognos BI introduces the ability to capture user action information for BI events and processes in a way that can be managed and audited. In previous versions, event authors could configure agents which would detect events within a BI data source and take action based on preconfigured criteria. Tracking user interaction with these events was limited to email and Cognos portal entries. Tracking email changes to entries alone does not provide the ability to define how users are expected to respond to an event and there was no way to capture what a user does with information provided by the event agent.

The enhanced event management features permit event authors to configure tasks to be assigned to individual users or groups of users. These tasks can include expectations about when work on a task must be started and completed. Tasks can request approval for actions to be taken based upon an event. A task can request that a user decide how the agent should proceed to execute configured tasks based upon the user's analysis of or reaction to the event condition or task contents.

The IBM Cognos platform includes a new service to support enhanced event management functionality called the *Human Task Service*. This service is based on an open specification called WS-Human Tasks. IBM is leading the working group to define the WS-Human Task standards, along with participation from other web standards community members.

The new enhanced event management tasks can be created as part of an agent within Event Studio as well as within a new user interface for IBM Cognos Connection called *My Inbox*. Task types include approval requests, ad-hoc tasks, and notification requests. All tasks remain within the IBM Cognos environment. Email notifications are generated when tasks are created, worked upon, or progressed to completion by a user. Tasks can be assigned to a Cognos Group or Role. However, after a task is claimed, it is owned by the claiming user. The capabilities and roles of task users are implemented in IBM Cognos BI as defined by the WS-Human Tasks specification. Task users are defined as Potential Owners, Owners, or Stakeholders. Stakeholders are users who are interested in the outcome of a task.

Proven enterprise platform

Providing a scalable and cost-effective platform for deploying analytics

Today's organizations need more agile and responsive decision-making processes to respond effectively to market opportunities and challenges. IBM Cognos BI version 10.1 delivers platform advances that allow IT departments to realize the following benefits:

- ► Optimize performance with in-memory processing
- ► Accelerate model design with guided workflow-driven modeling
- ► Enhance system management with more granular visibility and control
- ► streamline life cycle management with the ability to seamlessly upgrade

With IBM Cognos BI, organizations can maximize benefits and minimize costs when deploying analytics.

Accelerated model design with guided workflow driven modeling

Many organizations find that it takes too much time and too many iterations for IT to build the right models. IBM Cognos BI provides guided workflow driven modeling that is based on established best practices. A workflow driven modeling process reduces the amount of time that is required to deliver the right model.

New assisted modeling

Model Design Accelerator is a new feature in IBM Cognos Framework Manager that provides an assisted modeling experience for building a relational star schema model. This simplified entry point to Framework Manager enables novice users to build models and become familiar with the modeling process. Experienced users of Framework Manager benefit from a streamlined, top-down modeling workflow that allows them to build and deploy models quickly.

Model Design Accelerator lets the modeler focus on creating a presentation layer that is tailored to reporting requirements. You first select a data source and choose the tables and views that you want to use in Model Design Accelerator. To build the star schema model, simply drag columns from your tables into the query subjects in the workspace. Existing data source relationships are detected automatically and are displayed in the workspace.

To enhance reporting options, you can add model joins using a relationship editor. As you work, each action is evaluated against modeling proven practices. Potential issues are identified, and a description of the issue and the possible solutions are displayed. When finished, a Framework Manager model is generated that you can then refine further in Framework Manager or publish directly to IBM Cognos Connection.

For more information about Model Design Accelerator, see the *Framework Manager User Guide*.

Optimized performance with in-memory processing

Organizations might find it difficult to meet performance expectations because of complex processing requirements and related overhead on systems. In IBM Cognos BI, in-memory processing on 64-bit systems delivers optimized query generation with pattern intelligence, security-aware caching for query plan and query, and on-demand data and metadata caching for executed reports. These features help to deliver faster results and increased business satisfaction.

In-memory analytics

IBM Cognos Business Intelligence offers improved query functionality and performance through the use of the dynamic query mode. This new mode uses in-memory query processing, which allows report authors and advanced business users to do faster business analysis and to make quicker decisions.

By employing an enhanced Java™-based interface, the dynamic query mode provides key query optimizations that address query complexity, large data volumes, and performance. For more information, see the *IBM Cognos BI Dynamic Query Guide*. Also, the Dynamic Query Cookbook is available in the Proven Practices section of the IBM Cognos Customer Center:

http://www.ibm.com/software/data/cognos/customercenter/

Query performance with dynamic query mode

The dynamic query mode provides several new features for improving query performance for OLAP data sources.

One key area is optimized query generation and performance. The dynamic query mode provides in-memory calculations and aggregate operations, along with smart query processing that combines multi-dimensional and relational concepts to achieve improved performance. By using a 64-bit cache facility, the dynamic query mode delivers security-aware smart caching. It uses in-memory optimizations to increase query performance and data cache reuse.

Smart caching includes the following features:

► Scheduled and automatic management of the cache ensures that the cache contents remain relevant and timely and reduces the repetitive query load on the data source. This cache management allows the use of the existing infrastructure and improves the user experience for business analytics.

► Smart load controls maximize the availability of memory for the most accessed data ensuring consistently fast performance. The system is self managing and monitors the most used data and acts accordingly

Streamlined life cycle management with the ability to seamlessly upgrade

The increasing scale of upgrade projects creates a challenge for IT. IBM Cognos BI reduces the complexity and risks of an upgrade by providing greater control over the upgrade process. IT can now use a staged upgrade approach to quickly deliver on new business requirements and manage costs. Other features make it easier for IT to track the application life cycle and validate content in a variety of environments before an upgrade.

Centralized administration and enhanced system management

Routine activities consume a significant portion of day-to-day IT activities. IBM Cognos BI features continue to provide enhanced abilities to assist administrators in the management of BI applications, servers, and security. Enhancements in scheduling, administration, and audit features build upon the mature and robust IBM Cognos administration functionality to provide even greater management flexibility and insight into activities and load on the IBM Cognos BI server platform. These features allow IT to respond faster to problems and to deliver improved business user convenience and satisfaction.

Enhancements to scheduling

This release of IBM Cognos BI includes several enhancements to scheduling.

Intra-day scheduling

Scheduling in IBM Cognos BI now permits even more granular management of server resource availability and performance through use of intra-day scheduling options. Intra-day scheduling permits the restriction of recurring jobs or reports to execute within a specified window of time.

For example, you can schedule job A to execute once every 30 minutes, every day between the hours of 9:00 p.m. and 11:00 p.m., and schedule job B to execute between 8:00 a.m. and 8:00 p.m. only on Saturdays and Sundays.

Controllable capabilities for user based scheduling frequency

IBM Cognos Administration lets you restrict or grant access to product functionality through settings called capabilities. Administrators can reduce the overhead required to manage IBM Cognos applications and servers by permitting users to access specific functionality that is normally used only by administrators.

One such capability is the scheduling of reports or jobs processed by IBM Cognos servers. Administrators can now permit or deny users the capability to schedule activities without losing control of the balance of server processing load. User based scheduling can now be managed through a capability setting which permits or denies users access to certain schedule frequencies and priorities. When you create a new schedule, users can see only the scheduling options that they are authorized to access.

Enhancements to IBM Cognos Administration

The IBM Cognos Administration console provides a central interface for the management of system resources and insight into the status of services and user activities. Enhancements to IBM Cognos Administration console features in this release of IBM Cognos BI provide a greater level of detail related to IBM Cognos BI server utilization.

Better insight into upcoming activities

Administrators can now view scheduled activities down to a single hour. Enhancements to the Upcoming Activities chart provides administrators with the ability to drill down within a day's scheduled activities to view peaks for processing load. This capability can reveal possible opportunities to balance load based on information requirements and available resources, making it possible to optimize utilization of all available server resources.

The ability to suspend upcoming activities

Administrators can resolve potential processing issues by suspending non-critical activities and allowing them to be processed during an off-peak scheduling window. Schedules can be suspended for a defined amount of time to allow for server load or supporting system downtime. If a reporting database unexpectedly goes offline, for example, schedules can also be suspended and then resumed after the database outage is corrected.

Additional details available about current activities

After activities are running, administrators might need to identify which application service and hardware resources are used in order to make decisions about future activity scheduling and resource allocation. IBM Cognos Administration provides the process ID for currently running activities along with the duration or execution time of the last successful run of the activity.

View dependencies for package data sources

Administrators can view data source dependencies for individual packages through the package actions interface.

Automatic update of trusted credentials

For IBM Cognos BI deployments that do not implement a single sign-on (SSO) solution, stored credentials that are used for running scheduled activities can be updated automatically. When a user logs in to IBM Cognos BI with a user name and password, the trusted credential that is used to run schedules when not logged in is refreshed as well. Thus, the user does not need to remember to refresh the trusted credentials manually, which can eliminate failed activities that are caused by changed or expired user credentials.

User-based credential management

Administrators can configure user-based credential management for data source access. In previous releases, credentials used to access data sources are either configured and stored centrally by an administrator and used by all users accessing the database, or users are prompted to provide credentials from an external namespace or from the underlying database. Administrators can now elect to have users manage their own data access sign ons, which are stored under a user's profile. This feature provides administrators with an optional mechanism to eliminate the need to manage data access sign ons and reduces the effort that is required for administrators to manage an IBM Cognos BI deployment.

Improvements to auditing

Auditing facilities now provide the ability to track the IP address of users who access the system. The ability to identify system events by IP address can help administrators and network analysts to track the source of network communications related to IBM Cognos BI applications.

Assisted upgrade processes

The new name for IBM Cognos Upgrade Manager is *IBM Cognos Lifecycle Manager.* Administrators can use IBM Cognos Lifecycle Manager to easily validate that reports from two different version have no differences. IBM Cognos Lifecycle Manager provides a validation workflow that allows you to do all tasks that are required during the upgrade validation, including approving or rejecting differences to reports. You can also use the tool to add notes to report objects during the upgrade process, so that decisions can be tracked and followed up on until the upgrade project is complete.

IBM Cognos Lifecycle Manager also allows for an exportable report that can be distributed to all people in the organization. The information in the report allows you to track progress and to measure the success of the upgrade.

IBM Cognos Lifecycle Manager includes the following key enhancements:

► Create benchmark projects to compare reports from a single environment. For example, you can compare snapshots against a baseline.

► In addition to reports in PDF format, compare reports in HTML, XML, CSV, Microsoft Excel 2007, Microsoft Excel 2002, and Microsoft Excel 2000 Single Sheet format.

► Compare reports in any language that IBM Cognos BI supports.

► Quickly test dynamic query mode without changing the query mode of the users who access the environment.

► Set a date-time value as a project configuration option.

► View report execution times for source and target reports.

► Import an archived project into a new project, allowing reuse of previously executed content. For more information, see the *Lifecycle Manager User Guide*.

Support for multi-version coexistence

Multi-version coexistence allows for a more seamless upgrade experience for the user by allowing administrators to upgrade the IBM Cognos software in stages. During the staged upgrade, users have access to two versions of the product through a single common portal entry point. This feature gives administrators the time needed upgrade content from the previous version without affecting the business users requirements of accessing new features. Multi-version coexistence allows an installation of the latest version of IBM Cognos BI to display content that is hosted in an earlier version of IBM Cognos BI through a single IBM Cognos Connection portal.

In some upgrade scenarios, a staged upgrade is required to allow users to take advantage of new features and functionality quickly while administrators upgrade the existing content that is running in an earlier version. This staged upgrade approach allows more flexibility during the upgrade process by allowing applications to move as they are ready. The "all or nothing" approach to an upgrade is eliminated. Single applications or groups of reports no longer delay the upgrade of an IBM Cognos BI environment.

Enhanced search capability

Enhanced search allows users, regardless of their knowledge of business intelligence, to embrace the decision-making power of IBM Cognos BI. Users can quickly and securely access both structured and unstructured information using standard search interfaces and then use this information to create BI content dynamically.

Enhanced search is the default search method within IBM Cognos BI. Cognos administrators can control whether enhanced or standard search modes are used and which users or groups can take advantage of the enhanced search capability. Enhanced search and other IBM Cognos BI features help to create a self-service BI environment that reduces the burden on IT. Because it is easier for users to access the information they need, IT spends less time finding and distributing reports, and creating redundant reports and analysis when an existing report would meet user needs. IT maintains administrative control over search targets and indexing. Using enhanced search also reduces the need to create and maintain drill paths between related reports.

Enhanced search is integrated with existing IBM Cognos security features to deliver a single security environment for all users regardless of how they consume reports. Users only see the reports, metrics, and analysis for which they have permission to view. Security options include the ability to suppress report titles and descriptions.

Enhanced search for users provides the following key benefits:

► Search assisted authoring

Queries are created dynamically based on search terms, allowing users to further refine the query in the most appropriate IBM Cognos studio. This feature gives the user a head start and takes the ambiguity out of designing queries from scratch.

► Full data searching

Users often have difficulty finding relevant reports because of the large number of reports or the folder structure that is used to organize the reports. Also, similar report titles and descriptions can suggest that different reports answer the same question.

Full data search allows users to locate platform enhancements to simplify and cost-effectively scale enterprise analytics relevant reports by searching for specific terms, such as a customer name, product name, or location, that rarely show up in titles or descriptions.

► Search assisted exploration

If a user selects a search result that is associated with a cube data source, the user is taken to the appropriate drill location and can then continue the analysis in IBM Cognos Analysis Studio. This features provides users who might not be familiar with the data a launching point for further analysis

Expanded support for SAP BW data sources

IBM Cognos BI continues to expand and improve support for SAP BW data sources to ensure that you can gain maximum return from your SAP BW investment. Both system administrators and report authors benefit from enhancements.

Ability to create personal packages for SAP BW data sources

System administrators and business users need to be able to provide report authors with access to SAP BW data sources quickly and easily. To expedite this process, you can create a package directly from a new or existing SAP BW data source. This functionality is available to business users directly from IBM Cognos Connection. System administrators will also find this functionality in IBM Cognos Administration.

This new functionality bypasses the need to publish packages from Framework Manager by providing a web-based wizard that walks the user through the creation of a package from a new or selected SAP BW data source. To prevent the proliferation of personal packages by users, system administrators can restrict package creation based on specific SAP BW data sources. For more information about creating personal packages for SAP BW data sources, see the *IBM Cognos Administration and Security Guide*.

Prompting for SAP BW variables

SAP BW variables are parameters in an SAP BW query that the business warehouse administrator sets up. When the queries run, the SAP BW variables are filled with values. SAP BW variables are exposed automatically as prompts when you run a report or when you add data to a report. Prompting for SAP BW variables in IBM Cognos BI has improved. You are prompted for optional variables when you initially drag data items.

Time-dependent hierarchies

Time-dependant hierarchies now reflect hierarchy or structure changes automatically. When a structure is imported into Framework Manager, each SAP BW time hierarchy is depicted as an individual level. IBM Cognos Report Studio users can use these structures to report on and compare levels that are valid for a specific time period.

Summary

IBM Cognos Business Intelligence version 10.1 is the revolutionary new business intelligence release from IBM that breaks down the barriers to analytics. It is revolutionary because it expands traditional BI capabilities with planning, scenario modeling, real-time monitoring, and predictive analytics. These capabilities deliver power in an easy-to-use and unified experience that is collaboration and social networking enabled.

IBM Cognos Business Intelligence version 10.1 enables organizations to gain all the perspectives they need to increase performance by providing the following functions:

► Analytics that everyone can use to answer key business questions—sharpening individual skills and improving business outcomes

► Collective intelligence to connect people and insights to gain alignment—collapsing the time needed to align, decide, and act

► Actionable insight everywhere it is needed in real-time, mobile, and business processes that enable instant response to changing business conditions

Built on a proven technology platform, IBM Cognos Business Intelligence version 10.1 is designed to upgrade seamlessly and cost-effectively scale for the broadest of deployments. It provides you and your organization the freedom to see more, to do more, and to make smart decisions that drive better business results.

Other sources for more information

IBM Cognos Customer Center:

http://www.ibm.com/software/data/cognos/customercenter/

Human Ability and Accessibility Center:

http://www-03.ibm.com/able/

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