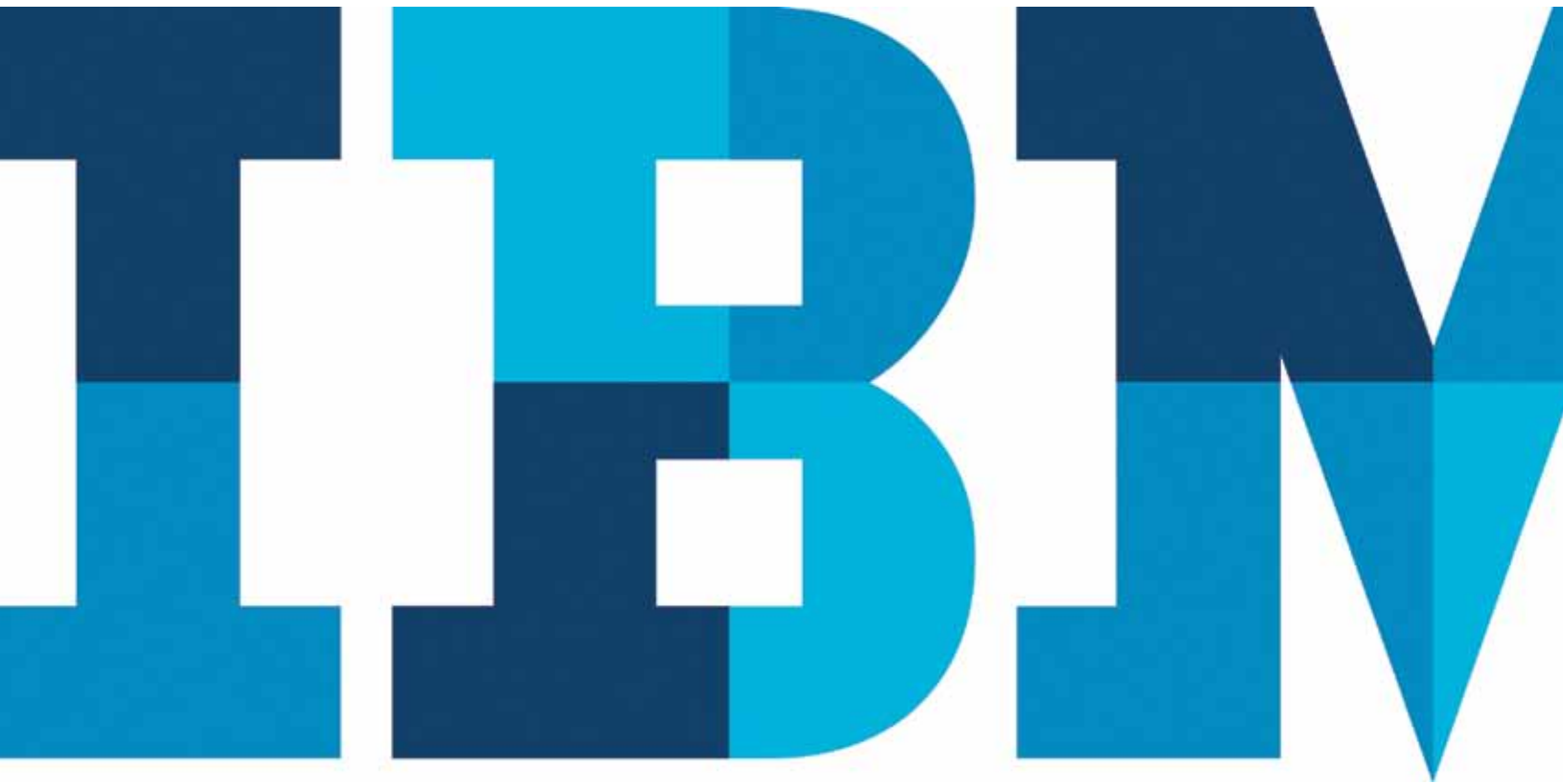


# Traditional BI infused with performance management and personal analytics: Balancing user freedom with IT control

*IBM Cognos Enterprise*



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## Executive summary

Top performing organizations are analytics-driven. They use business intelligence (BI), performance and strategy management, statistical analysis, modeling and predictive and advanced analytics to guide their actions, large and small and in all corners of their businesses. They not only know the answers to how they are doing and why, but they also know what to do next to stay ahead of the competition. Their decisions are better and smarter.

A 2010 joint study by MIT Sloan and sponsored by IBM indicates that more organizations want to invest in business analytics solutions to become analytics-driven. However, many feel constrained by traditional business intelligence (reporting, analysis, dashboards and scorecards) investments that have been made or integrated haphazardly, with little thought to how the business as a whole might benefit from the data or insight they provide. For the best business outcomes, companies need an agile BI solution infused with personal analytics capabilities and integrated with planning and forecasting, analysis, profitability modeling and performance reporting. Companies also need a solution that is modular, integrated, scalable and open so their IT organizations are not hampered with excessive implementation, deployment, management and maintenance tasks.

IBM is redefining BI with an enterprise solution that brings reporting, analysis, modeling, planning and collaboration together for better decision-making cycles and to help remove the barriers to being analytics-driven.<sup>1</sup> This paper describes how IBM is infusing traditional BI with personal analytics and performance management to balance user freedom and IT control. It introduces IBM® Cognos® Enterprise, the solution that can help your organization take advantage of this new kind of BI—one where the sky's the limit.

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### **The search for analytic freedom and IT control**

Businesses have been searching for some time for the best solutions for answering the question “How are we doing?” In the 1980s, businesses often used different types of proprietary reporting in each line of business, which gave way in the 1990s to centrally managed report creation and distribution. In the mid-2000s, discovery tools emerged and businesses went back and forth between centralized and decentralized solutions.

Centralized BI provides dashboards and reports that tip the balance toward IT control, offering a certain amount of personalization and interactivity but in a managed environment and with a managed dataset. Decentralized data discovery tips the balance the other way toward freedom of analysis with personal data sets; however, this comes at the price of generating separate and often incompatible data and getting answers that might not be complete.

IBM has worked with organizations in the past that like the idea of analytic freedom but also want control. These organizations often feel trapped because they believe that choosing one means giving up the other. The good news is that this choice is no longer necessary. IBM now has a solution designed to provide both analytic freedom and management control so your company can make better, smarter decisions without being bound to one type of solution.

### **Making better, smarter decisions**

A recent IBM study shows that organizations that use analytics to determine why and what they need to be doing next are twice as likely to outperform their industry peers.<sup>2</sup> These organizations have infused their business intelligence with data exploration, trend and statistical analysis, what-if analysis and predictive analytics to become analytics-driven organizations. They have become top performers because they are relying on analytics for their decisions.

These top performers operate their businesses differently from their peers. They use analytics for all types of decisions, large and small. Analytics guides their goals and objectives for the future; insight is the basis for their daily operations and rigorous analysis guides their decisions. The correlation between performance and analytics-driven management has important implications for organizations who want to make better use of their data.



### **Smith and Associates reacts faster to emerging opportunities with Cognos Enterprise**

Smith and Associates is a world-leading distributor of electronic components. The company regularly deals with complex electronics supply chains. Therefore, Smith and Associates must source the right electronic components at the right price and meet customers' tight manufacturing schedules. The company uses Cognos Enterprise to view and assess inventory levels, pricing and the supply chain, so their traders can source, purchase and deliver the components that customers need. Analytics have also been embedded into the traders' existing systems, providing seamless access to reports even while the traders are on the phone to customers. As a result, traders and trade managers have a clearer understanding of important factors, such as cost of inventory, helping them make better sales decisions while maintaining profit margins. The company says that many reporting processes are twice as fast as they used to be, and the company expects even faster performance when they start using a Cognos enhanced query process.

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A critical barrier to becoming analytics-driven is how organizations have approached the adoption of business intelligence and analytics technology, which returns to the centralized or decentralized debate. Different parts or divisions of an organization might be using different business intelligence and analytics solutions or multiple tools that satisfy different needs might have been shoe-horned together in an attempt at integration. In some cases, departments have purchased their own desktop tools because IT couldn't satisfy user needs fast enough. The result is user frustration because:

- They are faced with multiple interfaces and tools.
- They must wait for IT to deliver changes and enhancements.
- They cannot easily share information with key stakeholders.
- They cannot reach all the relevant facts they need.

Analytics-driven business intelligence served up the way it's needed helps all users assess current facts and past history, determine what might happen based on trends and adjust as the marketplace changes to gain and retain competitive advantage. Integrate it with performance management solutions and everything is there to help your organization become top performing and analytics driven. From the desktop, mobile and from the web, users in your organization can start almost anywhere — with a solution for workgroups, for example — and add more functionality, such as statistical analysis, continuous forecasting or real-time monitoring — as you need it. IBM now offers Cognos Enterprise, a solution that provides all this and more.



## One big, happy family

The IBM Cognos 10 family helps put analytics into the hands of everyone to drive better business outcomes. Right-sized and integrated to meet the needs of your organization, the members of the Cognos 10 family include:

- Cognos Insight—for individuals who want freedom and flexibility of desktop analytics
- Cognos Express—for workgroups, departments or midsize businesses who need to be up and running fast with a solution that is easy to install and manage
- Cognos Enterprise—for organizations who need to meet strategic objectives spanning multiple functions, levels and business units

Whether you want to deploy to a couple of desktops or to your entire enterprise, IBM has the solution for you. You can even address your most pressing needs now and grow your solution over time. With the Cognos 10 family, you get the flexibility and ease of use that the business demands while providing IT with integrated, easy-to-manage software that seamlessly grows with evolving needs.

A powerful and flexible solution that includes BI capabilities infused with personal analytics and performance management from a company with business analytics expertise, Cognos Enterprise can help everyone in your company base decisions on facts. Cognos Enterprise is designed to scale from hundreds to thousands of users, and it can be accessed from wherever in your company it is needed and from smart phones, tablets and notebook computers. Business users can quickly find historical facts, real-time information and predictive models (Figure 1) that help drive their decisions. Business analysts can develop and share models to test scenarios. Finance and other users have the flexibility and information to create and adapt plans, budgets and forecasts.

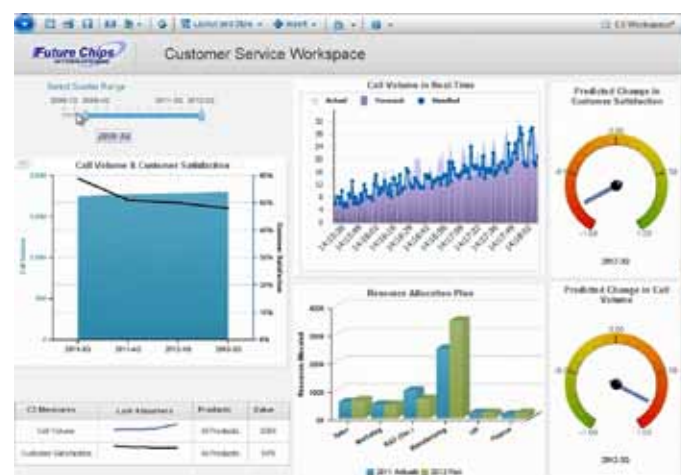


Figure 1: Historical facts, real-time data and predictive models in one unified workspace.



## **OMERS streamlines reporting, external audits and more**

With more than \$53,000,000,000 in net assets in 2010, OMERS is one of Canada's leading pension funds. It administers a diversified global portfolio of stocks and bonds, along with real estate, infrastructure and private equity investments that consistently yield superior returns, ultimately funding almost 70 percent of the plan over the long-term. Building on previous success with IBM Business Analytics software, OMERS chose to deploy Cognos Enterprise for financial reporting, planning and forecasting, uniting 41 sets of books and 9 charts of accounts into a single entity, eliminating manual reconciliations and saving several days per quarter. Financial reports are generated faster and financial planning processes are now automated, which eliminates the need to hire external consultants, saving up to \$15,000 a year. In addition, the solution has streamlined an allocation process that previously took 1.5 hours of pure system processing time for each iteration, and it can now be executed in minutes, saving approximately 30 hours annually.

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In short, Cognos Enterprise is designed to arm every user with what they need to act, support the way users want to work and meet the needs of both the business and IT.

### **Arming every user with what they need**

Users need quick access to facts and the flexibility to manage information so they can make informed decisions. With Cognos Enterprise, business users in your organization can:

- Assemble relevant information to understand the business.
- Analyze information to make fact-based recommendations.
- Share and collaborate in analytics processes to achieve alignment.
- Act on findings to drive better business outcomes.

And, IT can deliver a system that helps users outperform with confidence knowing they have complete understanding of their business.

### **Assembling relevant information**

Assembling relevant information involves three main activities:

- Quickly and easily finding the most relevant content with integrated search (Figure 2) and navigation
- Monitoring the pulse of the business in a single workspace that shows historical information alongside real-time updates, plans and predictive results
- Easily exploring and personalizing information by formatting content and adding visualizations and calculations to gain richer insight

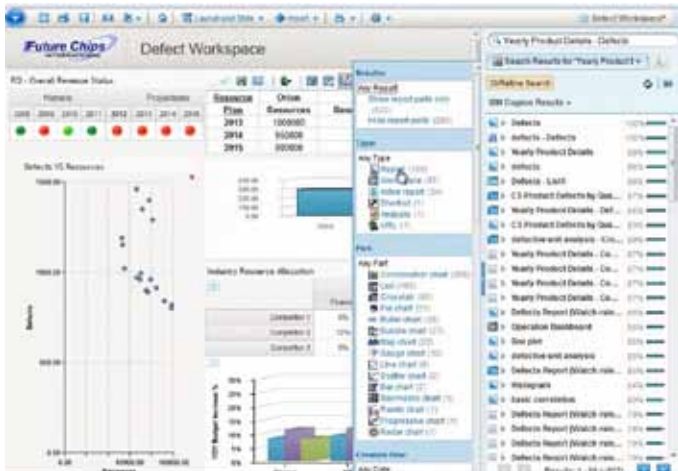


Figure 2: Integrated search.

Cognos Enterprise is designed to provide what users need for each of these activities. To help with information collection, drag-and-drop features can be used to create unique perspectives or to personalize content with the user's own perspective. It is also possible to incorporate external workgroup or personal data with corporate sources. The interactive workspace makes it easier to follow the natural path from viewing to light exploration and on to deeper analysis. Users can uncover insights by following their own trains of thought, add visualizations to gain richer insight and create new ways to present valuable information.

How does it work? With integrated search, users can navigate content to find the right information. They can interact with that information in an interface designed to help them explore, personalize and format data for a better understanding of what is going on in the business. Users can see history, look at current numbers, view plans and analyze predictive results. For example, a customer service representative can be confident she has information from every time period needed to make the right decision for that specific situation, because she can view:

- Historic call and customer satisfaction data
- The number of calls currently coming in
- Actual and plan information
- Future predictions generated by predictive analysis

### Analyzing information

Analyzing information in an analytics-driven organization includes:

- Understanding the underlying reasons for an event or action with lightning-fast analysis of all critical business data
- Uncovering relationships in data that will give you a wider context
- Developing what-if scenarios on the fly to validate assumptions and make strong and informed recommendations
- Harnessing predictive results to better understand what might happen
- Driving decisions by creating and sharing statistical evidence to validate information



Cognos Enterprise provides users with an extensive set of analysis capabilities so they can anticipate and shape outcomes with fact-based recommendations. It includes tools designed to drill into both corporate and personal business data. Users are able to create and share statistical evidence to compare, for example, the correlation between the demand for a product and its price, which then can be used to make recommendations for future promotions. Or they can create scenarios as needed to visualize a profitability problem in the context of the current quarter's revenues. A customer service manager might wish to see the profitability of rendering a new service to customers and also view the effect of a discount for that service.

Cognos Enterprise users are no longer constrained to historical information and validating what has happened. Cognos Enterprise helps users uncover why something happened and then helps them decide what the next best action should be. What-if analysis capabilities make it possible to create scenarios that help users anticipate risk and validate their assumptions. Cognos Enterprise can also help them examine predictive results to better understand what might happen in the future.

To understand how it all works, imagine that you oversee product quality for a company, and you have noticed that current revenue projections are not looking good and future projections are also in the red. This is affecting your company's ability to sell products and your competitors are gaining market share. In your workspace, which has been personalized for detecting defects (Figure 3), you have the current resource plan and a list report showing key defect metrics.

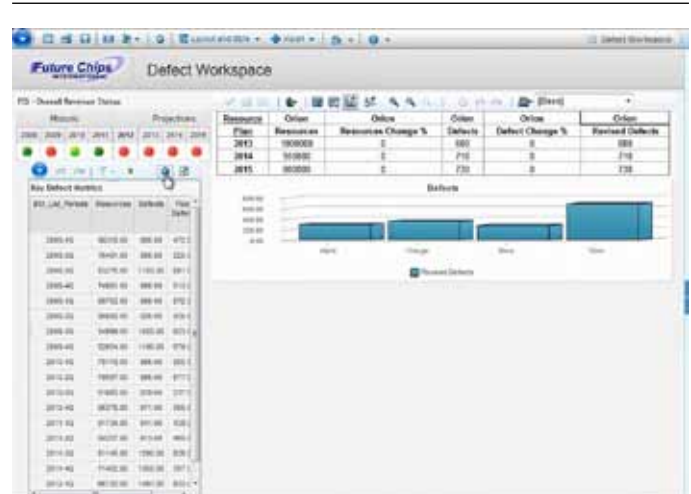


Figure 3: Workspace personalized for defects.

You use that information to create a report that focuses on the resources and the defects, adding a scatter plot (Figure 4) to demonstrate that there is a correlation between resources and defects. Meanwhile, a coworker uses his personal desktop solution to do research on competitors. He pulls together his analysis and creates a report on the desktop that is published and incorporated directly into the Cognos Enterprise environment.



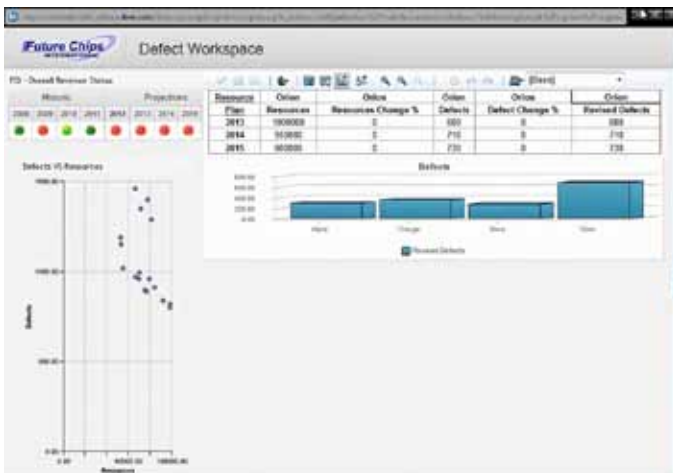


Figure 4: A scatter plot demonstrating correlations between resources and defects.

You can take the coworker's analysis, add it to your defects workspace and make some adjustments to show how much your competitors are investing in R&D because it is an important data point. You now need to make some recommendations for reducing the defect rate, which should improve quality and help drive sales, so you work on a scenario that shows how increasing the R&D resources for a specific project affects the defects. You can change information and recalculate revised defect projections until you see the improvement you need. You make a quick comment and share your insight with the team. You have now used Cognos Enterprise to create fact-based recommendations that will help your company anticipate and shape better outcomes.

### Achieving alignment

It can be difficult to achieve the critical alignment of goals and objectives needed for top performance, especially in large enterprises that are spread out around the globe. Cognos Enterprise can help with capabilities designed for:

- Communicating organizational strategy so all users can understand and agree on key activities and projects
- Sharing insights by adding commentary to dashboards, reports and individual cells (Figure 5)
- Engaging the right people at the right time to exchange ideas and accelerate alignment
- Engaging in an in-depth collaborative discussion based on enterprise information

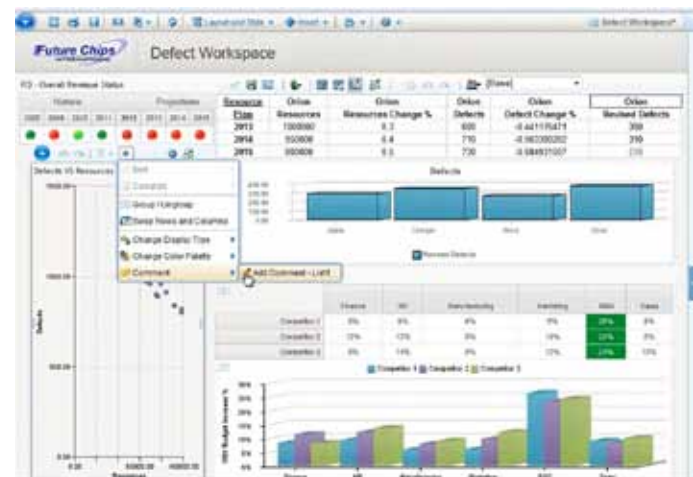


Figure 5: Adding commentary to dashboards and reports.

With Cognos Enterprise, users can pool their personal data with other users without affecting enterprise data sources. With robust personal analytics in the mix, business users can also validate their planning assumptions, providing a fact-based approach to business plans. Before forecasting (or re-forecasting), for example, a planner can share new discoveries and prototype plans with the core team, who, in turn, can explore performance gaps at various levels of detail.

Users can also attach greater business context to the information itself by capturing annotations down to the cell level, including definitions of terms, data lineage and comments explaining how and why decisions were made. With scorecards and strategy management capabilities, it is possible to communicate organizational strategy so all stakeholders can understand and align with key activities and projects.

Built-in collaboration capabilities accelerate alignment by engaging the right people at the right time to exchange ideas and knowledge. Dashboard activities help everyone engage in collaborative discussions based on BI content. With these collaboration capabilities, users can:

- Initiate activities (Figure 6).
- Engage others with expertise.
- Post messages, files and links.
- Discuss or review the opinions of others so everyone can work together toward a common goal.



Figure 6: Initiate an activity in your workspace.

### Acting on findings

After users have assembled data, analyzed information and achieved alignment of strategy, they need to be able to act. The performance management capabilities of Cognos Enterprise, such as assessment, modeling and workflow, and performance reporting capabilities, can help your business:

- Rapidly create and share dynamic, adaptable plans with shared business rules, data and metadata.
- Empower more users to model plans with guided modeling, which can help reduce planning time.
- Assign tasks to achieve greater levels of commitment to and accountability for plans.
- Track performance and compare it with strategic objectives to optimize business outcomes.

Users in sales, marketing or other functions can analyze planning results, explore alternative scenarios and share plans in dashboards or reports. In addition, they can prompt other team members for comments and validation.

Adaptable planning and forecasting capabilities can enable consistent decision-making. Using a flexible, expressive modeling environment that includes guided steps for building dimensions, cubes, data links and processes, business analysts can quickly develop models and link them to other models to form a cohesive set of enterprise plans that can accommodate current practices such as driver-based planning, profitability analysis or rolling forecasting.

With the same interface, analysts can then deploy the models to workgroups or users throughout the enterprise for contribution, with planning types, such as hierarchical or non-hierarchical, and interfaces that are adaptable to the preferences of your business. Workflow capabilities help you structure and automate analytic processes to drive greater speed, accuracy and increased participation and accountability in performance planning and forecasting.

Cognos Enterprise is also designed to provide a planning environment with many report formatting options. Planners and managers can view and share template-based or ad hoc reports, from those with complex dimensions, such as balance sheet or cash flow, to alternate scenarios for forecasts to financial intelligence such as the result of a product profitability analysis.

## Supporting where and how users work

Business users need to make critical decisions regardless of their roles. Cognos Enterprise is designed to make BI, performance management and analytics available to users where and how they work:

- Over the web
- On mobile devices
- In a personalized, individual workspace
- In process

### Web

With Cognos Enterprise, users work in a web-based interface that is unified so they can view historical data alongside current data and predict outcomes with advanced analytics. Users can move from viewing information to working with data or combining BI content with external web and application data sources and systems. In addition, the web interface can connect the right people to share insight, gather perspectives and opinions and understand how decisions were made and who made them. As a result, everyone in your company can easily interact, share information, plan, model and conduct comprehensive analytics without having to use special programming or get IT involved.

### Mobile

Many BI users are on the road frequently, and they expect to be able to content on a wide range of mobile devices, including their personal smart phones and tablets. Cognos Enterprise includes mobile solutions that are designed to provide the same content regardless of location. Users can also easily interact with trusted information to make decisions when offline or get focused information at their fingertips with location-aware reports. These reports zero in on where a user is currently and provide information related to clients and prospects that are in that area. In addition, users can also be assured that the information they receive on their mobile devices is no different from the information they receive on their computers in the office.

### Desktop

Cognos Enterprise also offers users a personal analytics solution that enables them to work independently on their desktops. They can explore, understand, share and take action. They can drag and drop imported data, create data from scratch and enrich data without complex scripting. They can create custom applications, dashboards and what-if scenario models for analysis. They can control presentation with visualization capabilities and they can publish their personal work as a shared application to collaborate and take action (Figure 7). Because they are connected to your enterprise, they can share their content and use the content of others.



Figure 7: Publish personal work as a shared application.

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### In process

With Cognos Enterprise, it is not necessary to switch from other applications when you need BI, performance management or analytics. Instead, it is designed to integrate analytics with existing applications and business workflows. You can embed information assets into everyday applications, portals and business processes so users have greater access to all sources of relevant information. Managed workflow helps connect all actions and decisions.

## Meeting the needs of both the business and IT

Cognos Enterprise is designed to meet the needs of both the business and your IT organization with:

- A system that grows and adapts with the business
- Complete and consistent access to all information
- Optimized performance for rapid information delivery
- Proactive management with a complete view of system activity

## Growing and adapting with the business

The best solutions are those that can grow and adapt as your business needs change. For that reason, Cognos Enterprise is modular, integrated and open so that IT organizations are not hampered with excessive implementation, deployment, management and maintenance tasks.

Because Cognos Enterprise is modular, IT can implement new capabilities to address specific challenges. For example, your IT organization can start by implementing capabilities such as dashboards, mobile and key reports and add functionality such as collaboration or what-if modeling later. As your organization grows and requirements change, nothing is left behind because it is easy to add capabilities and there is no need to change products or to rip and replace what is already there.

Often, organizations install and adopt BI capabilities that are not easily integrated with other capabilities or with other applications and systems, such as ERP and data warehousing. Cognos Enterprise is designed to integrate with other capabilities, applications, data warehouses, information infrastructure and enterprise systems. In addition, this integration is optimized for lightning-fast performance, scalability and easier governance.

Cognos Enterprise is open with broad hardware and device support so that companies can deploy it on their current servers, tablets, smart phones, workstations and more. There are also different deployment options: you can install them in your data center or in a private cloud or opt for hosted services.

## Gaining complete and consistent access to information

Complete and consistent access to information is important to both IT and the business. Cognos Enterprise is designed to provide open data access to all data sources regardless of where the data is stored. As a result, it is possible to use most combinations of data and evolve them over time with minimal effects on users.

Cognos Enterprise also helps you implement flexible data sourcing strategies so that data sources can be combined and real-time information integrated into workspaces, providing users with a more holistic view of overall business performance. The business owns and manages a common sanctioned source for all dimensions and a dictionary of business terms to provide clarity and understanding.

As a result, business users know where information comes from and are confident that it is consistent and complete.

### **Achieving optimized performance for rapid information delivery**

Cognos Enterprise is designed to optimize the performance and on-demand response time of multidimensional data. Cognos Enterprise uses a 64-bit in-memory analytics engine designed to analyze complex or large data sets for on-demand planning, analysis, profitability analysis and management reporting. In addition, aggregate operations can speed up computing time, and optimized caching and flexible refresh management enable the reuse of views that users repeatedly access. Cognos Enterprise is also designed to scale to support enterprise-level planning and analytics.

### **Confidently deploying and proactively managing**

Cognos Enterprise is designed for confident deployment and proactive management. A complete view of system activity enables administrators to take action before a problem affects business, which can help meet and exceed SLAs. It is fault-tolerant with self-aware peer-to-peer services and automatic load balancing to help minimize risk for mission-critical deployments. It is also designed to effectively manage through change to lessen the effect on both IT and the business by helping IT assess the effect of change and address business requirements quickly (for example, refresh pack, data source updates).

IT can validate content from multiple environments in a single interface, which can streamline upgrade processes and increase IT efficiency. Multi-version coexistence support eases upgrade and roll out. IT can also effectively use and enhance existing security standards and restrict access to data according to business requirements, while at the same time reducing barriers to user adoption with the option to simplify the login process.

### **Conclusion**

When you put all the capabilities and options together, it is easy to see why Cognos Enterprise can be described as both simple and powerful.

It is simple because you can start just about anywhere with any BI or performance management capability and add capabilities as you go. Users are not overwhelmed with a massive system of applications that they must navigate to get to the capabilities they need.

It is powerful because it blurs the distinctions between BI, business analytics and performance management and exploits the capabilities of all three. As a result, it can support all your business decisions, arm your users with what they need, make BI and analytics capabilities available where and how users need them and provide for the needs of both the business and IT.

IBM has redefined and reinvented BI by infusing it with performance management and business analytics to help your organization become analytics driven. With Cognos Enterprise, your organization can use BI, performance management and personal analytics to guide actions in all corners of the business. It can help you find the answers to how you are doing and why, and what to do next to stay ahead of the competition. And the result? Better, smarter decisions for the best business outcomes now and in the future.

### About Business Analytics

IBM Business Analytics software delivers actionable insights decision-makers need to achieve better business performance. IBM offers a comprehensive, unified portfolio of business intelligence, predictive and advanced analytics, financial performance and strategy management, governance, risk and compliance and analytic applications.

With IBM software, companies can spot trends, patterns and anomalies, compare “what if” scenarios, predict potential threats and opportunities, identify and manage key business risks and plan, budget and forecast resources. With these deep analytic capabilities our customers around the world can better understand, anticipate and shape business outcomes.

#### For more information

For further information, visit [ibm.com/business-analytics](http://ibm.com/business-analytics).

#### Request a call

To request a call or to ask a question, go to [ibm.com/business-analytics/contactus](http://ibm.com/business-analytics/contactus). An IBM representative will respond to your inquiry within two business days.





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