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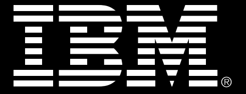


Seven risk dashboards every bank needs

Information Management

Cognos® software

Contents

3 **Business problems**

3 **Business drivers**

4 **The solution**
Credit risk dashboards
The loan origination dashboard
The delinquencies dashboard
The charge-off dashboard
The Basel II dashboard
Operational risk dashboard
The market risk dashboard
The enterprise risk dashboard

16 **Conclusion**

Abstract

Banking is about managing risk and multiple risk types. In fact, a bank's raison d'être is to accept structured uncertainty and manage the associated risks, with the goal of capitalizing on these risk differences to earn profits. The skill with which your bank balances alternative risk/reward strategies will determine your ability to deliver on shareholder returns.

However, in a market environment where competition, globalization, market volatility, and structural change are increasing, you need to manage their risks even better – and with greater transparency. In addition, the Basel II requirements have galvanized financial institutions around the world to re-evaluate the role of risk management.

Overview

The financial crisis that started in the summer of 2007 with a sharp devaluation of U.S. sub-prime mortgage assets and continued with the $700 billion government bailout in 2008 has raised concerns about the effectiveness of banking risk management. Several issues certainly deserve specific attention, including the effectiveness of exposure control processes, the objectivity of credit derivatives valuation and the bank's ability to respond to rapid changes in market liquidity.

Business problems

At one level, banks need to assess credit and operational risk and use empirical transaction data to confirm that reserves are set correctly for balance sheet capital contingencies. The collateralization of mortgage and consumer loan portfolios into the secondary market is an example of market risk management. Today there is great debate around the global parameters that monitor market risk and support or maintain market stability. Given the various risk parameters, the key is to identify where and how a bank can proactively manage its risks and various assets—physical, financial, and human—to its advantage.

Business drivers

Risk mitigation strategies are a top concern for the board, senior executives, CFOs, and risk managers. And despite the need for rapid change, a recent IBM study found that two-thirds of financial markets firms rate their agility as moderate to poor—and less than 5 percent feel confident about their risk management capabilities.

Your challenge is to implement an integrated approach that can be ingrained in your organization and its management practices. Without a coordinated risk management strategy, organizations will continue to struggle with repeated policy iterations before risk handling procedures and controls are efficiently aligned.

Simply put, banks must get a handle on risk management. It is a key link to instilling more customer confidence, higher profitability, and company longevity. In this paper we will discuss the seven dashboards every bank should have and how IBM Cognos® software can help you facilitate better risk decision-making throughout your organization.

The solution

Credit risk dashboards

Banks are facing the greatest challenge since the 1930s. Several of the largest banks have failed or been sold at fire-sale prices, the quality of underlying loan assets continues to deteriorate, and the availability of credit – for both bank-to-bank lending and bank lending to customers – is more squeezed than ever before. At the most basic level, the culprit for the enormous upheaval is simple – poor credit decisions.

Now, more than ever, banks need to turn the reams of information at their disposal to accurate, actionable insight about credit risk. Banks need a better understanding of the performance of their loan portfolios and the effect of credit risk performance on profitability, so that they can take the actions required to ensure healthy, profitable lending operations.

IBM Cognos 8 Banking Risk Performance – Credit Risk (IBM Cognos Credit Risk Performance) is a packaged analytic application that provides you with standard reports and dashboards to accelerate access to credit risk insight. Faster to implement than building a custom solution, it includes a data warehouse with a dimensional data model specifically for performing analysis. It also includes packaged reports and dashboards designed for managing credit risk. Credit Risk Performance allows your bank to answer key credit risk questions such as:

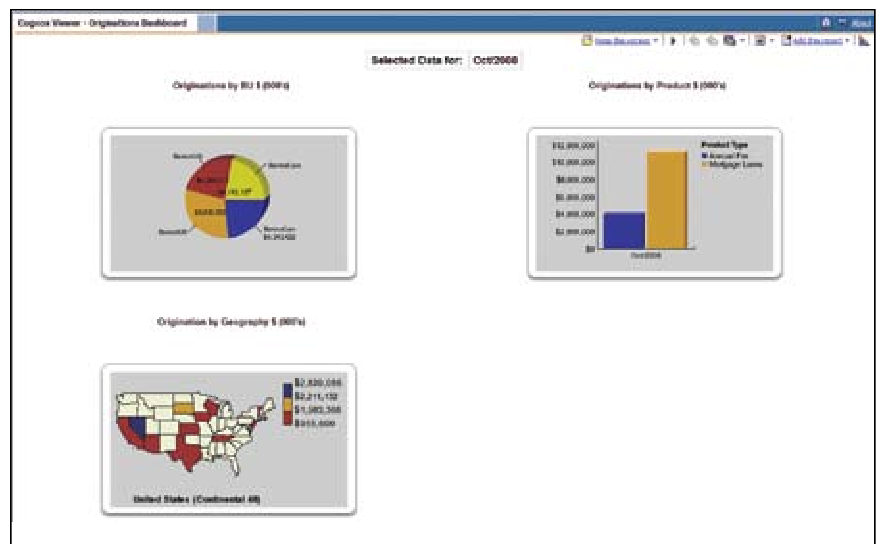
- What are the delinquency levels in the portfolio?
- Which products, geographies, business units, or vintages are performing well, and which are performing poorly?
- How much of the portfolio is rolling from one delinquency bucket to the next?
- What are credit scores throughout the portfolio?
- How many new loans are being originated, and with what characteristics?

- Are charge-offs rising or falling, and is one product type or geography experiencing more charge-offs than another?
- Are receivables, delinquencies and charge-offs in-line with forecasts for these metrics?
- How is the portfolio performing on such metrics as probability of default, loss given default and exposure at default?

It provides dashboards for a host of risk factors including the following critical three:

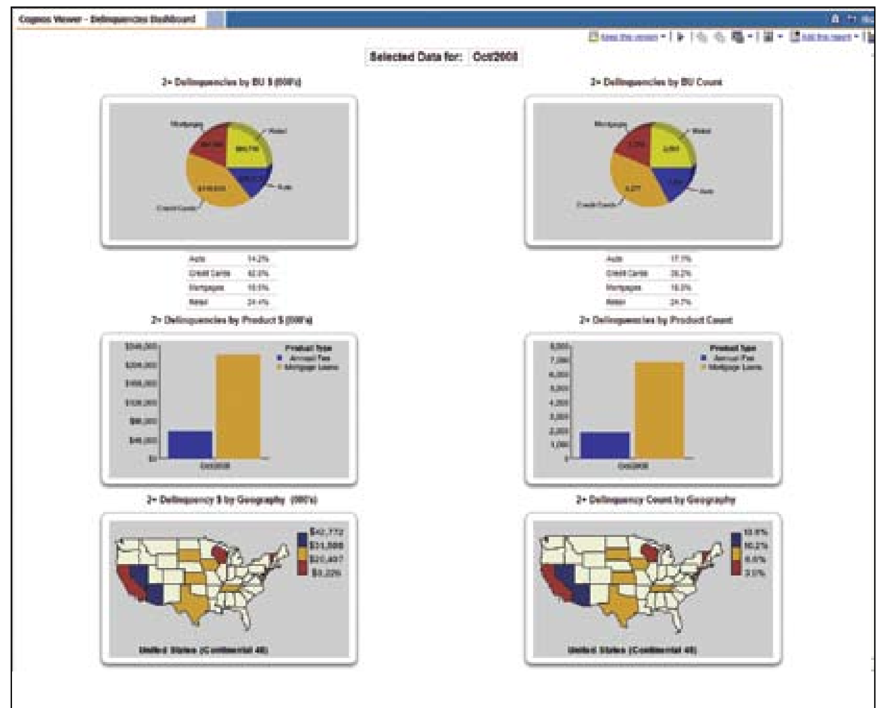
The loan origination dashboard

With the loan origination dashboard, banks can see at-a-glance the volume and characteristics of new loan originations, such as credit scores and loan-to-value calculations throughout the portfolio. With this information in hand, companies can assess if they are taking on too much risk in certain business units, and find out if they are too heavily weighted in certain geographies or on specific products. Once they understand the risk involved in loan originations, the bank can then create sales and marketing strategies to target different areas and emphasize different products.



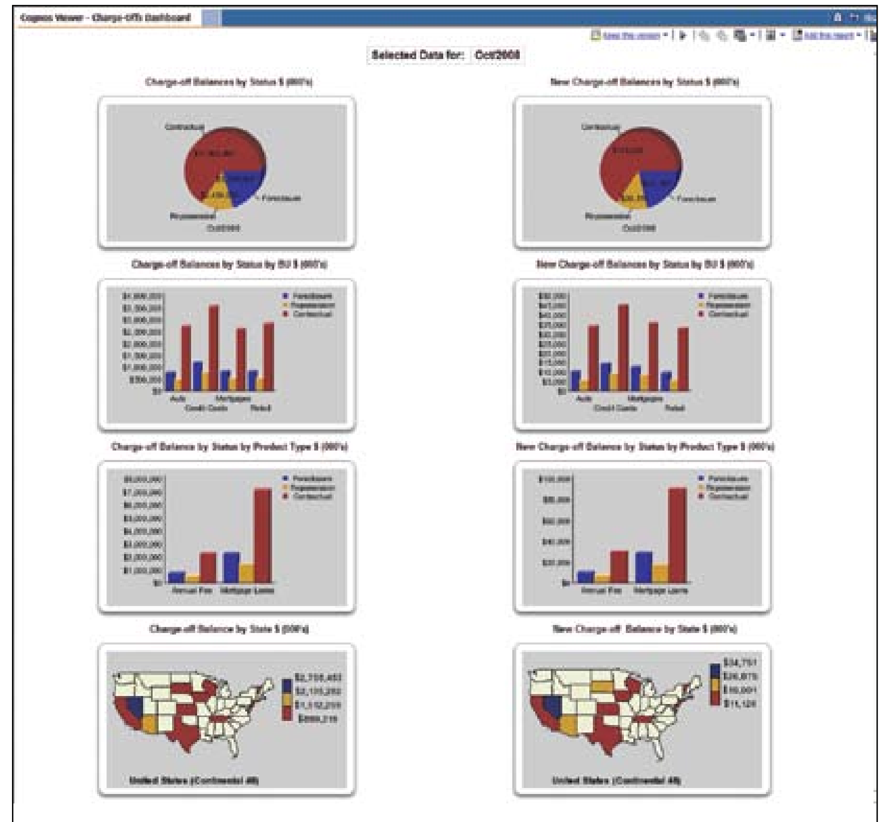
The delinquencies dashboard

Central to a bank's profitability is the ability to manage cash flow and credit quality by monitoring delinquencies, roll rates, and vintage information spanning credit cards, mortgages, consumer loans and a host of other products. Equally important is to have perspective that spans multiple business units and geographies. With IBM Cognos Credit Risk Performance, banks see this information in 30-day buckets and can better assess seriously late 60-to 90-day delinquencies, dig deeper to find details about problem areas in the portfolio and set a plan for getting them current. Failing that, the bank can then move into debt-collection efforts.



The charge-off dashboard

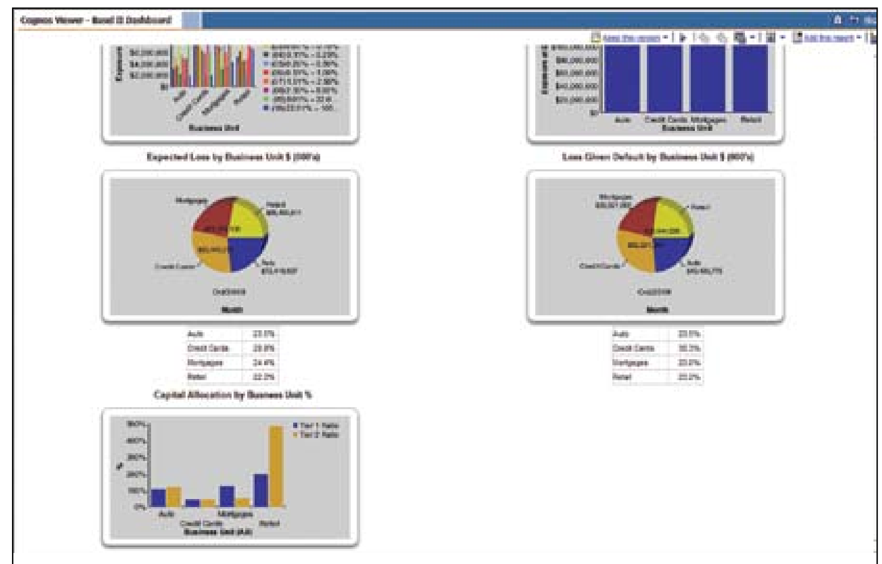
Banks also need to look at the natural lending cycle from start to finish. They need deep insight into progressions from delinquencies to charge-offs. By looking at charge-offs from a host of dimensions including regions, products and circumstances – such as foreclosures or repossessions – they can understand the "why" behind losses and create meaningful strategies to avoid them in the future. They can also look at charge offs from the perspective of gross charge-offs versus net charge-offs to understand the real losses involved.



The Basel II dashboard

The Basel II Capital Accord ties a bank's capital more closely with its economic risks. The Accord, a refinement of earlier international regulation, strives to stabilize the banking industry by ensuring consistency and competitiveness among banks.

The concept is simple: the more sophisticated a banks' risk management approach and, perhaps more importantly, its ability to demonstrate it, the less capital it must set aside to cover losses such as defaults. This minimum capital requirement is the first of the three pillars of Basel II, the second being internal controls and the third, market discipline and external disclosure.



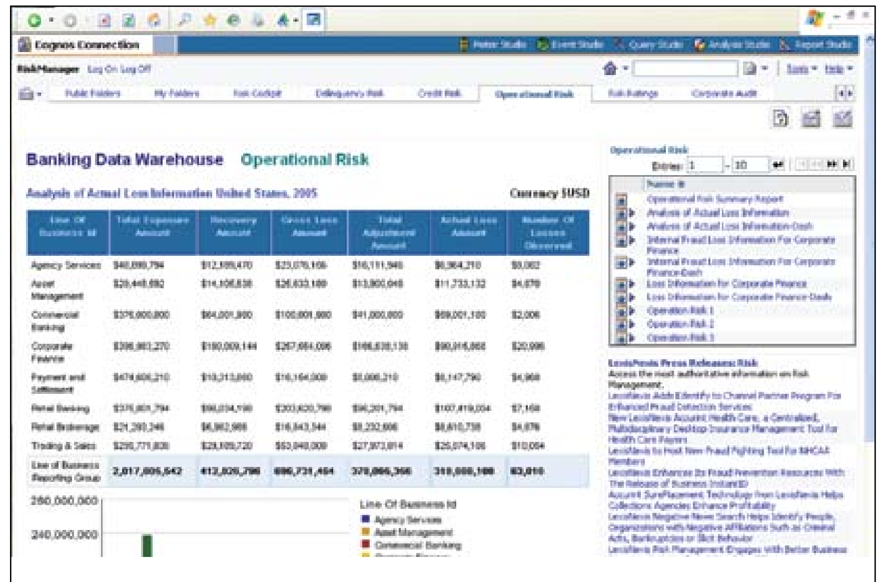
Banks rarely have a shortage of risk management expertise, technology, or data. The issue lies in consolidating and communicating it, within the company and externally to regulators and to the market. IBM Cognos software unifies data from disparate systems into a single, consistent repository optimized for the risk analysis and reporting the later stages demand. A single metadata layer and conformed dimensions help you ensure the data quality and accuracy that regulators will require. Banks can also model capital requirements to optimize their mix of products, regions, and customers for maximum profits.

With IBM Cognos software, banks can get a full picture of key metrics associated with Basel II, including:

- **Probability of Default –** Classify the portfolio into a series of ranges that indicates each loan's likelihood of default.
- **Exposure at Default (EAD) –** Indicate total exposure a bank can expect if a loan goes into default.
- **Loss Given Default –** Understand percentage of exposure at default that wouldn't be recovered (net loss). Compare with types of loans that have higher chance of default ratios (e.g., credit cards).
- **Expected Loss –** Measure loss that your bank can expect.
- **Capital Ratios –** Monitor capital in reserve (percentage of loan revenue) and the liquid assets available to protect from a financial downturn.

Operational risk dashboard

By monitoring risk more closely, financial institutions can not only meet regulatory demands, but also minimize the required amount of reserve capital, thus maximizing their profitability. To properly monitor enterprise risk, firms must take into account the entire scope of business activity, throughout all business units and functions. They must define and track multiple credit, market, and operational risk metrics commonly known as key risk indicators (KRIs). To generate the risk metrics, they must collect, aggregate and analyze vast amounts of data in multiple transactional and historical systems. And as exceptions occur, alerts must be sent out quickly so that immediate corrective action can be taken and losses minimized.



Unfortunately, many of today's controls are based on stale information and data latencies, leaving banks open to fines from regulatory agencies and huge financial exposure. Instead of waiting weeks for information that reveals suspicious activity, banks must be able to monitor daily transaction activity in real time so they can react appropriately and immediately to problematic situations.

Operational dashboards provide visibility into the financial process and present CFOs, risk managers and compliance officers with the information required to act when specific risk events or suspicious behavior occur.

With IBM Cognos operational dashboards, you can monitor key risk metrics such as Value at Risk, portfolio allocation and market data. You can also monitor key business events such as orders, wire transfers, account modifications and trading behavior changes, and relate those events to historical information, alerting your people to exception conditions as they occur. You can also look at IT risk, for example, the risk of failure of core systems or Web sites, which could cost a bank millions per day.

With operational risk management you can:

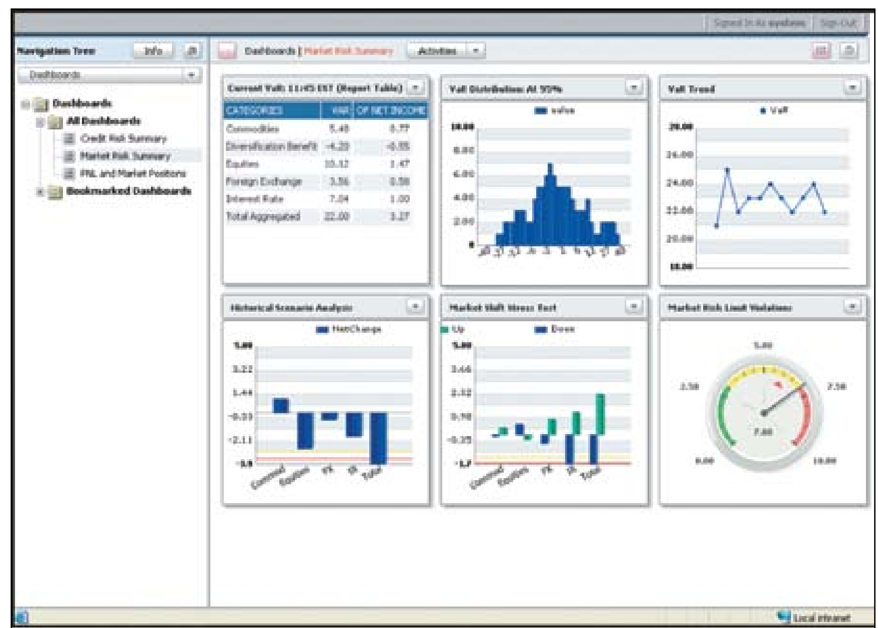
- Monitor broker activities for compliance and fraud.
- Discover and report unauthorized IPO allocations.
- Monitor continuous activity and call volume at customer call centers to discover and prevent potential customer service problems.
- Assure that the trade being settled is the trade that was made.
- Minimize penalties by ensuring that all transactions are settled in the required timeframe.
- Comply with Basel II risk management profiling and compliance.
- Aggregate trading positions and desk-level risk management systems to provide a single holistic view of the firm's risk profile.
- Integrate continuous market and trade activity information to analyze risk of exposure in real time.
- Improve hedge positions by linking continuous rate lock information with portfolio positions for funds management and investment decisions.

The market risk dashboard

Market risks occur when assets and liabilities change value due to changes in market factors. These risks include:

- **Equity risk –** The risk that equity prices will change.
- **Interest rate risk –** The risk that interest rates will vary.
- **Currency risk –** The risk that the currency exchange rate will change.
- **Commodity risk –** The risk of price fluctuations for commodities such as metals, oil, agricultural products, etc.

The key issue is not simply to identify market risk factors, but to quantify the risk and develop approaches or strategies to address them. One common valuation methodology is Value at Risk, which looks at the likelihood an asset's value will decrease over a period of time. Others include shortfall probability, downside risk (semivariance) and volatility. Risk management executives will need to be aware of the inherent strengths, weaknesses and sensitivities associated with each method. It may also be useful to compare market risk with other risks to understand various risk priorities. For example, how does market risk compare with specific industry risk, which measures industry changes rather than systemic market risk?



Whatever the method, managers who have access to better information on market detail and segmentation will be better equipped to identify and mitigate risk. Only by clearly understanding the various business streams and positions can managers implement an effective risk management strategy. The increasing trend towards market specialization has led many banks to redefine their business strategies and focus on core capability and, by extension, core risk competencies.

For example, many banks will actively hedge their portfolio risk to immunize against asset/liability mismatches. Others will focus on building an asset portfolio, which is then securitized and managed by specialists. Depending on its strategy, a bank can now more effectively decide what market risk it wishes to manage or assume. Risks that fall outside these parameters are avoided by transferring them to a third party.

With IBM Cognos software, risk managers can get full insight into equity, interest rate, currency, and commodity risk along with metrics for:

- Market Value at Risk (VaR) of all exchange traded, debt and OTC instruments.
- Annual average assets.
- Total funds under management.
- Sensitivities for foreign exchange, bonds, swaps, and options.

The enterprise risk dashboard

In the wake of the Sarbanes-Oxley Act (SOX), Basel II and other regulatory initiatives worldwide, risk management, corporate governance, and compliance are major focal points for management. Governance starts with performance. It reflects the highest-level balancing act for management: Are we performing to shareholder expectations? Risk starts with the flip side of performance: Are we successfully taking and managing the right risks to sustain this performance? Compliance sets the rules by which we must play: Are we complying with regulatory requirements?

Management must understand and balance these business forces to ensure long-term success with customers, investors, employees and the law.

As companies begin to manage risk, they typically come to the conclusion that they cannot manage risk in an ad hoc manner by vertical business unit, by specific regulation or by domain; it becomes apparent that risk management must be conducted in a structured way and integrated throughout the whole enterprise. This entails a number of elements, such as the definition of risk; the formation of a risk oversight role, defined tolerances, policies and procedures for dealing with risk; the inclusion of risk as a factor in business decision-making; and the reporting of risk in a consistent manner.

Furthermore, risk management must be comprehensive and span all risks to understand and manage the interplay among various types of risks and the fact that certain events carry with them more than one type of risk. Financial risk is important, but reputational risk must be factored in as well. This means gaining clear insight into a host of reputation metrics such as customer attrition and satisfaction, negative press mentions, investor confidence, ad spend on brand, fines, lawsuits and more.

Management needs a clear understanding of the bank's major categories of risk and, most importantly, its level of exposure to these risks. Its ability to communicate these risks while instilling confidence in investors and regulators that it is managing them appropriately is critical. While risk appetite is what generates returns, regulators, customers and investors expect the controls for these risks to be solidly managed.

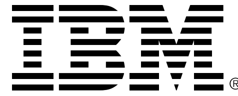
An enterprise risk dashboard brings together all the key risk exposures—credit risk, operational risk, market risk, reputational risk and more. With this dashboard, management can review changes in exposure and evaluate the potential impact on capital allocation throughout the operation. Drilling down into the risk management decision areas gives management additional insight into inherent risk (such as loss events, loss amounts or risk assessments), and into the methods of responding to risk (such as avoidance, reduction, sharing and acceptance).

Conclusion

With IBM Cognos solutions, banks can answer the key questions that are critical to better profitability, investor relations, compliance, and overall performance. Fast-growing, decentralized organizations can pull data from different sources quickly to accelerate decision-making and drive better risk management. With IBM Cognos software, you can invest in a solution that lets you:

- Report and visualize consolidated risk positions throughout the organization to support wider distribution and awareness.
- Analyze consolidated or individual risk profile by business unit, region, client, loan officer, risk class and more.
- Publish reports from centralized risk management group to risk managers, and allow self-service ad hoc reporting.
- Create and distribute KRI scorecards to support process change.
- Aggregate data from disparate risk environments.
- Receive timely notification of risk events, such as downgrades or crossing limits thresholds.

Whether you're the chief risk officer, vice president of a business unit or CFO, IBM Cognos software provides the tools you need to gain a competitive edge.



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IBM Cognos business intelligence (BI) and performance management solutions deliver world-leading enterprise planning, consolidation and BI software, support and services to help companies plan, understand and manage financial and operational performance. IBM Cognos solutions bring together technology, analytical applications, best practices, and a broad network of partners to give customers an open, adaptive and complete performance solution. Over 23,000 customers in more than 135 countries around the world choose IBM Cognos solutions.

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