Product Documentation

Risk-Adjusted Profitability Performance Blueprint

Information Management

Cognos® software

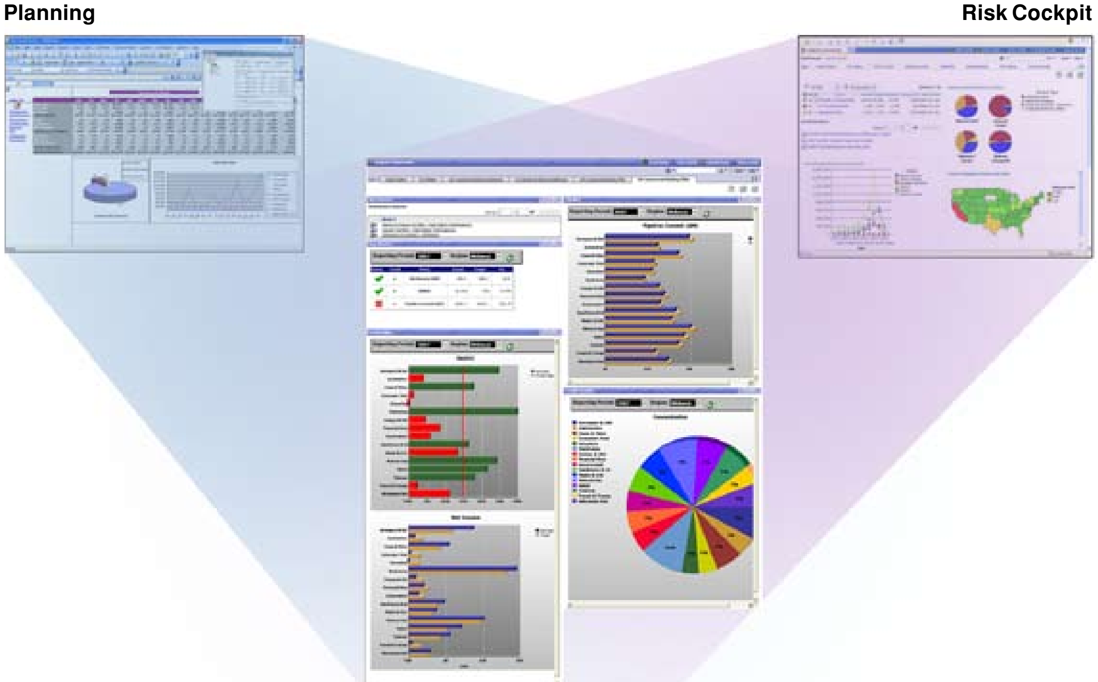
Introduction

The past several years have been a period of major technology investment for financial institutions. Sarbanes Oxley, Basel II, the Patriot Act, and other mandated federal initiatives have forced many firms into a perpetual spending mode to keep up with externally-imposed compliance and risk management requirements. Resulting from all this spending on risk and compliance, most financial institutions now have huge data warehouses for risk and compliance information, new risk modeling technologies, and dashboards and reporting that attempt to make sense of the information.

Internal initiatives have also spurred banks to invest more heavily in technology. Perhaps the strongest of these has been around profitability management and measurement to improve customer profitability, business line and product profitability, and channel profitability. Investments in budgeting and consolidation software, activity-based costing, customer relationship management, and profitability modeling systems have pushed the sophistication of profitability management to a new level.

Despite the great strides made in both profitability management and risk and compliance management, there remains a major issue. In the rush to comply with all of the external requirements and meet the needs of the internal business users, the two capabilities have not been integrated effectively.

Planning **Risk Cockpit**



IBM Cognos Risk Adjusted Profitability Dashboard

As a result of this lack of integration, planning and forecasting does not incorporate risk management to the extent that it should. At best, this leads to forecasts that are not entirely aligned with risk management, leading to insufficient financial planning and misalignment between the finance and risk organizations. At worst, the plans grossly misrepresent the level of the firm's credit and operational risk, leading to major discrepancies between projected and actual financial results.

The IBM Cognos solution

The *IBM Cognos® Risk-Adjusted Profitability Blueprint* makes integrated risk management and financial planning a reality. IBM Cognos Performance Blueprints are pre-defined data, process, and policy models that help organizations speed their software deployments and drive faster return on investment.

IBM Cognos Performance Blueprints address a number of essential functional process areas as well as the unique needs of specific industries. In addition, IBM Cognos Performance Blueprints can be linked together, allowing companies to establish dynamic connections that keep strategic objectives, operational plans, people, and activities aligned as business conditions change.

The *IBM Cognos Risk-Adjusted Profitability Blueprint* allows financial institutions to integrate risk information with an enterprise-wide, distributed profitability management process that provides

- Integrated risk-adjusted planning and forecasting at the product level, across multiple dimensions with risk measures that include:

  - Risk Adjusted Return on Capital (RAROC)

  - Economic Capital

  - Probability of Default

  - Loss Given Default

  - Expected Loss

- Activity-based management and costing capabilities for key customer, product and business segments, providing the most accurate, reliable profitability planning and reporting data. This enables
  - Risk-adjusted revenue and expense planning that incorporates activity-based costing methodologies.
  - Multi-dimensional scenario planning that incorporates activity costs, allowing users to compare the financial impact of several business options and take action on the most profitable course.
- Compatibility with any ABC/M system, due to joint development efforts with partners such as Acorn Systems.
- Multi-dimensional risk management and profitability reporting and analysis. By leveraging the IBM Cognos Risk Cockpit, a risk management reporting and analysis solution, financial institutions can combine the power of the IBM Banking Data Warehouse with IBM Cognos 8 BI.
- Unparalleled financial services domain expertise provided by IBM Global Business Services.

A financial institution that uses the *IBM Cognos Risk-Adjusted Profitability Blueprint* can plan and forecast at the product level, ensure unmatched accuracy with activity-based cost information, and incorporate risk calculations. This allows the bank to boost profitability through more precise planning and leverage existing technology investments, boosting technology ROI and overall bank ROE/ROA.

The IBM Cognos Risk-Adjusted Profitability Blueprint in action

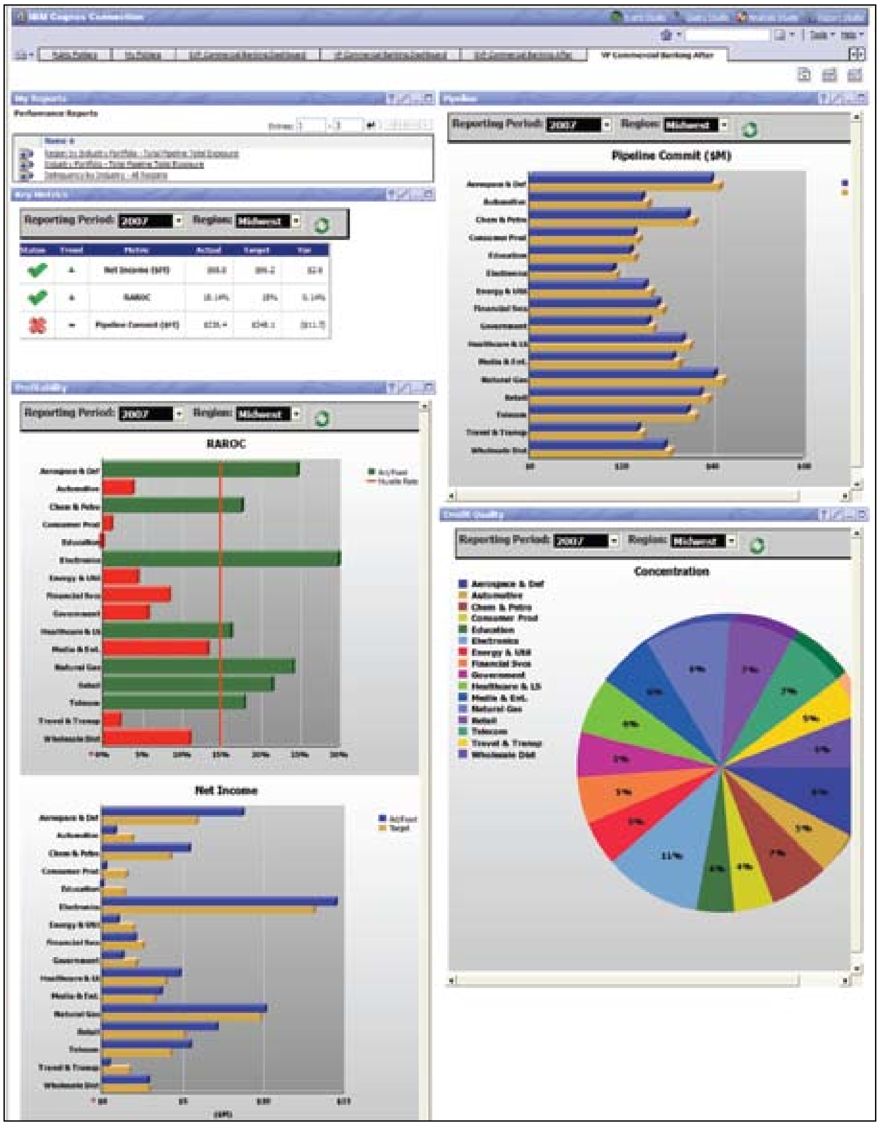
The following scenario depicts how a large or medium-size bank can take a best practices approach to incorporating the risk of taking on new business into its forecasts. Integral to this approach is the coordination between the line of business executives and regional managers, the CFO, and the Chief Risk Officer (CRO) or Risk Manager.

In this scenario, the Senior Vice President of Commercial Banking is using a dashboard to review the performance of each of his regions. In doing so, he can quickly gain insight into financial metrics such as revenue and net income, and risk metrics such as loan concentrations and delinquencies. He notes that in the Midwest region delinquencies are up and RAROC is below the hurdle rate, indicating a credit and profitability problem.

The Senior Vice President of Commercial Banking decides to ask the Midwest Regional Vice President why the region is underperforming, and for a plan to get back to meeting the forecast.

In order to address the Senior Vice President's inquiry, the Midwest Regional Vice President looks at her dashboard. She recognizes that the Natural Gas industry segment RAROC is below expectations.

She decides to look at the metrics for Natural Gas to see what other exposure she might have in the pipeline.



The Midwest Regional Vice President also wants to look at some other industry segments in her region to assess how they will impact her plan and forecast. She looks at a report displaying exposure and pipeline by industry. She notes that she does have significant exposure and shortfall in the Natural Gas industry. She looks at the Natural Gas pipeline to analyze how much of the pipeline would require taking on more exposure and how much of it consists of fee-based products, which don't carry the same risk.

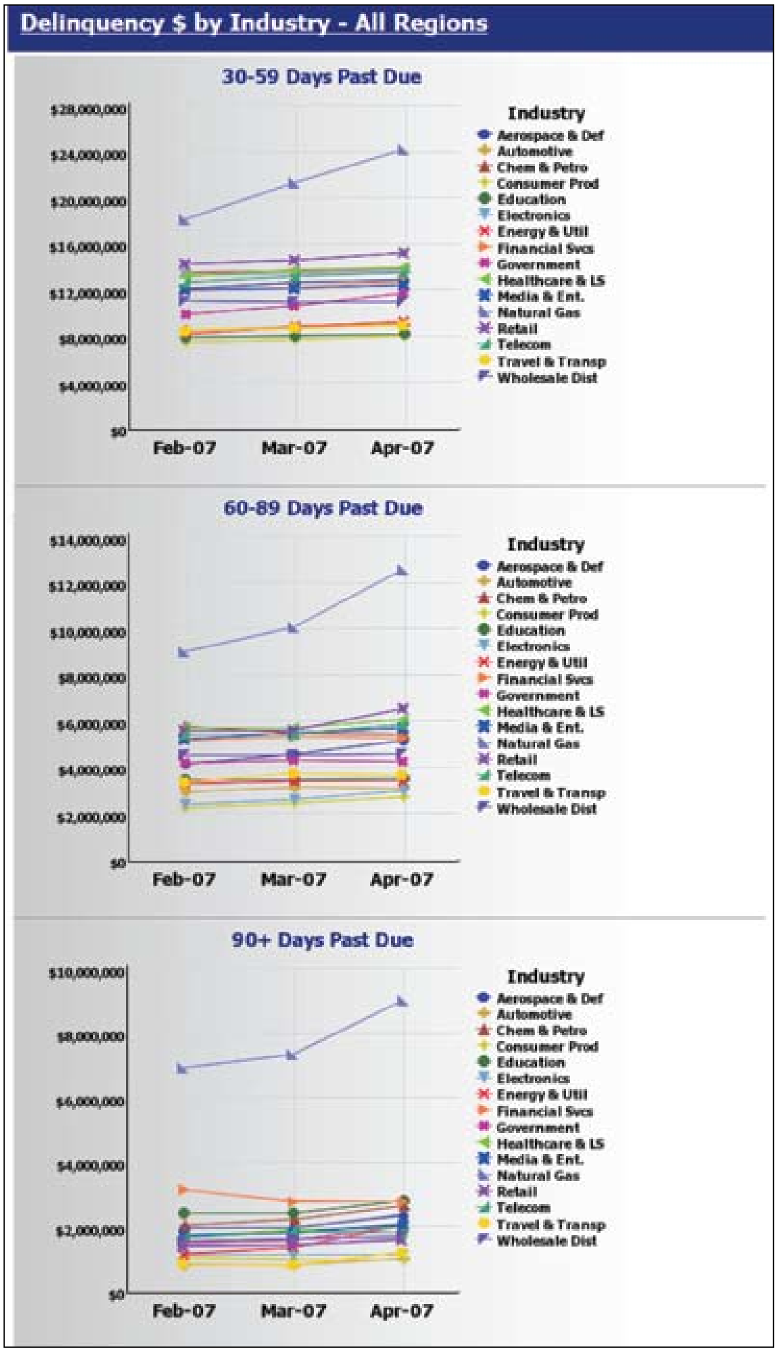
She also notes that the Electronics industry has significant upside, and decides to investigate this industry as an option to makeup for the forecast shortfall.

Midwest - Industry Segment Performance Summary

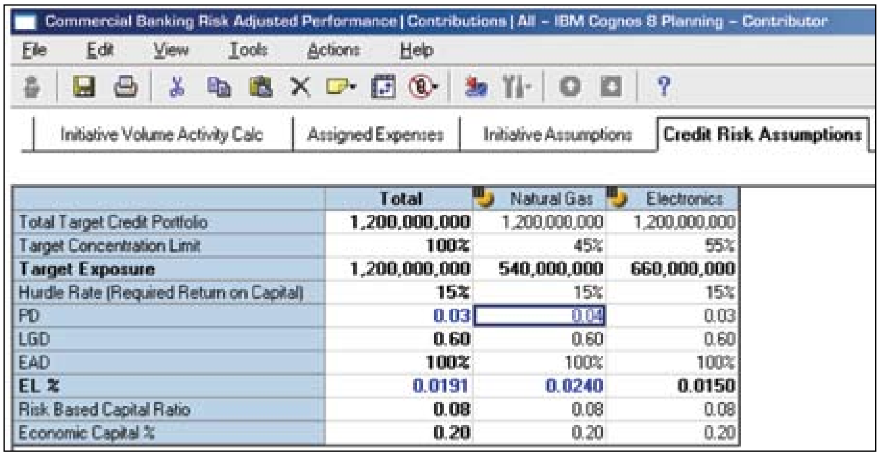
	Exposure ($M)	Pipeline Commit ($M)	Probability of Close	Pipeline Upside ($)
Aerospace & Def	$176.7	$19.9	72%	$113.4
Automotive	$108.0	$12.4	45%	$43.1
Chem & Petro	$152.7	$17.3	63%	$85.1
Consumer Prod	$99.8	$11.5	42%	$36.8
Education	$96.2	$11.1	40%	$34.3
Electronics	$176.7	$9.2	87%	$145.0
Energy & Util	$110.2	$12.6	46%	$44.8
Financial Svcs	$122.4	$14.0	51%	$55.1
Government	$113.1	$13.0	47%	$47.2
Healthcare & LS	$147.6	$16.8	61%	$79.7
Media & Ent.	$138.0	$15.7	57%	$69.8
Natural Gas	$179.8	$20.2	74%	$117.4
Retail	$165.6	$18.7	68%	$99.9
Telecom	$152.7	$17.3	63%	$85.1
Travel & Transp	$103.4	$11.9	43%	$39.5
Wholesale Dist	$129.5	$14.8	54%	$61.5
Total	**$2,172.5**	**$236.4**	**57%**	**$1,103.3**

The Midwest Regional Vice President alerts the CRO to the issues associated with the Natural Gas industry, in case it has not become significant enough to catch his attention yet. She also wants the Chief Financial Officer to run a scenario to see if moving business from pipeline upside to commit in Electronics will allow her to reach plan.

Based on this communication, the CRO opens up a risk report that looks at delinquencies by industry across all regions to determine whether or not the Natural Gas risk issue is a system-wide or regional issue. He determines that it is system-wide. He then makes the decisions to re-balance the overall commercial portfolio over the long-term, which will improve RAROC over time. For now, however, he recommends that no more exposure is taken on in this industry.



The CRO opens IBM Cognos 8 Planning and adjusts the Probability of Default for the Natural Gas industry upwards. As a result the plan and forecast are updated immediately. Because loan loss reserves are increased net income goes down.



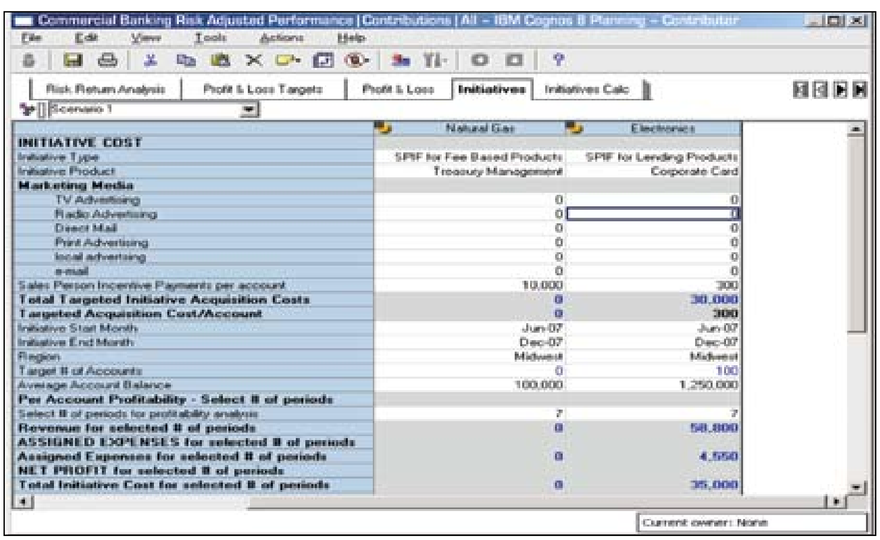
Commercial Banking Risk Adjusted Performance | Contributions | All – IBM Cognos 8 Planning – Contributor

	Total	Natural Gas	Electronics
Total Target Credit Portfolio	1,200,000,000	1,200,000,000	1,200,000,000
Target Concentration Limit	100%	45%	55%
Target Exposure	1,200,000,000	540,000,000	660,000,000
Hurdle Rate (Required Return on Capital)	15%	15%	15%
PD	0.03	0.04	0.03
LGD	0.60	0.60	0.60
EAD	100%	100%	100%
EL %	0.0191	0.0240	0.0150
Risk Based Capital Ratio	0.08	0.08	0.08
Economic Capital %	0.20	0.20	0.20

The CRO contacts the Midwest Regional Vice President and CFO to share his recommendation that they not to add any more Natural Gas exposure in Midwest, but shift focus to fee-based products instead. He suggests Electronics as a good option for adding exposure.

The CFO now wants to assess the impact of making the recommended changes to the bank's financial plan. The CFO uses the plan that has been updated by the CRO as a starting point. She looks at the P&L forecast for the Midwest and verifies the shortfall.

The initiative planning functionality allows the CFO to run scenarios to determine the impact on net income. She runs a scenario to analyze the impact of pushing fee-based products only in the Natural Gas industry and lending products in Electronics.



Commercial Banking Risk Adjusted Performance | Contributions | All – IBM Cognos 8 Planning – Contributor

Scenario 1

	Natural Gas	Electronics
INITIATIVE COST		
Initiative Type	SPIF for Fee Based Products	SPIF for Lending Products
Initiative Product	Treasury Management	Corporate Card
Marketing Media		
TV Advertising	0	0
Radio Advertising	0	0
Direct Mail	0	0
Print Advertising	0	0
local advertising	0	0
e-mail	0	0
Sales Person Incentive Payments per account	10,000	300
Total Targeted Initiative Acquisition Costs	0	30,000
Targeted Acquisition Cost/Account	0	300
Initiative Start Month	Jun-07	Jun-07
Initiative End Month	Dec-07	Dec-07
Region	Midwest	Midwest
Target # of Accounts	0	100
Average Account Balance	100,000	1,250,000
Per Account Profitability - Select # of periods		
Select # of periods for profitability analysis	7	7
Revenue for selected # of periods	0	58,800
ASSIGNED EXPENSES for selected # of periods		
Assigned Expenses for selected # of periods	0	4,550
NET PROFIT for selected # of periods		
Total Initiative Cost for selected # of periods	0	35,000

Current owner: None

To see how much new business to project, she opens the pipeline report for the Midwest and uses the ‘upside’ to fill in her projections.

She sees that closing the upside business that is fee-based in Natural Gas and all products in Electronics –including lending – will allow the Midwest to make plan.

Midwest - Industry Segment Performance Summary

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Based on this review, the CFO contacts the Midwest Regional Vice President and tells her that she can make plan if she closes all of the upside business in Electronics, and the fee-based upside business in Natural Gas.

The Midwest Regional Vice President also looks at the pipeline report. She discusses moving the pipeline upside for 3-5 Natural Gas and Electronics customers from upside to commit with the relationship manager for those accounts. Once this agreement has been reached the sales person incentives that are in place will cause the relationship manager to do everything possible to close business accordingly.

Natural Gas Industry Segment Performance Summary

	Exposure	Delinquency %	Pipeline Commit ($)	Probability of Close (%)	Pipeline Upside ($)	RAROC	Net Income
Illinois Natural Gas	$71,934,513	2.37%	$8,099,956	88.3%	$56,340,380	10.2%	$3,666,215
OKNEAK, LLC	$17,983,628	1.98%	$2,024,989	22.0%	$3,518,880	2.5%	$916,553
Ozark Gas & Light	$44,959,070	2.30%	$5,062,472	55.2%	$22,010,953	6.4%	$2,291,384
Wisconsin Energy	$44,959,070	2.10%	$5,062,472	55.2%	$22,010,953	6.4%	$2,291,384
Total	**$179,836,281**	**2.19%**	**$20,249,889**	**55.16%**	**$88,031,843**	**6.4%**	**$9,165,536**

Having gotten the buy-in from the relationship manager that he can close the pipeline upside this period, the Midwest Regional Vice President contacts the CFO and has her move the initiative plan into the actual forecast.

The CFO can now move the scenarios into the actual forecast by choosing 'select this initiative' for each of the two scenarios.

Risk Return Analysis | **Profit & Loss Targets** | Profit & Loss

Total | Total Regions

	2007			Jan-08
	Act/Fcst	Target	Gap	\ct/Fcs
Contribution Margin	88,195,302	65,589,087	22,606,214	17,5
Revenues	119,708,940	114,033,650	5,675,290	22,8
Key Performance Indicators:				
% Balance Growth	2.1%	0.7%	1.4%	
% Revenue Growth	17.1%	2.8%	14.3%	
% of Income from Fees	60.7%	28.8%	31.9%	

Finally–coming full circle–when the Senior Vice President of Commercial Banking re-enters his dashboard, he sees that the Midwest is back on plan.

Summary

With 95% of the world’s 500 largest banks as customers, IBM has a proven reputation in the banking industry. From the teller to the Web, IBM is a partner you can trust.

IBM Cognos solutions provide financial institutions with an integrated, best-practices tool for performance management. Over 1,000 retail, corporate, and investment banking institutions trust IBM Cognos software to increase customer, product, and channel profitability, manage and reduce risk, address compliance issues, and improve the predictability of financial performance. Many of the leading players in financial services already choose IBM Cognos solutions, including:

- Nine of the top 10 banks in Europe.
- All the top 10 banks in the USA.
- All of the top 10 commercial banks in the world.

About the IBM Cognos Innovation Center For Performance Management

The IBM Cognos Innovation Center was established in North America and Europe to advance the understanding of proven planning and performance management techniques, technologies, and practices. The Innovation Center is dedicated to transforming routine performance management practices into "next practices" that help cut costs, streamline processes, boost productivity, enable rapid response to opportunity, and increase management visibility.

Staffed globally by experts in planning, technology, and performance and strategy management, the Innovation Center partners with more than 600 IBM Cognos solutions customers, academics, industry leaders, and others seeking to accelerate adoption, reduce risk, and maximize the impact of technology-enabled performance management practices.

About IBM Cognos BI and Performance Management

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.

For further information or to reach a representative: www.ibm.com/cognos

Request a call

To request a call or to ask a question, go to www.ibm.com/cognos/contactus. An IBM Cognos representative will respond to your enquiry within two business days.

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