IBM Finance Forum 2012
Smarter Analytics. Smarter Outcomes.

Patrick Lim CPA CGMA
ASEAN GRC Leader

Using an Enterprise Governance, Risk & Compliance (GRC) Platform to Improve Risk and Compliance Initiatives

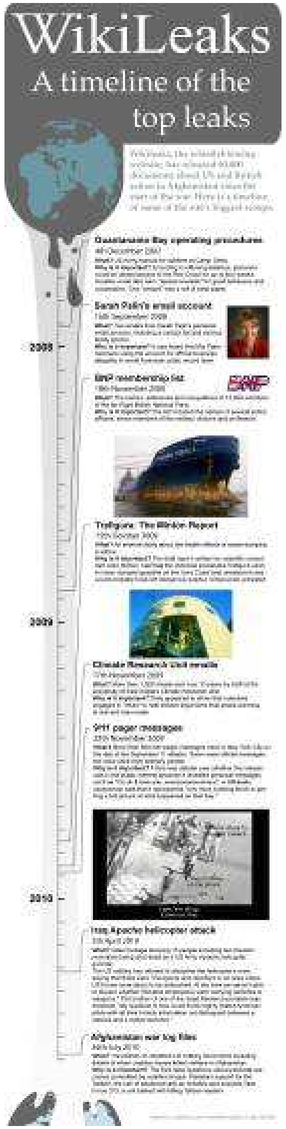
Better Business Outcomes with GRC

Lower costs, reduce redundancy and improve efficiencies by rationalizing your information architecture

Deliver **consistent** and **accurate** information about the state of risk and compliance initiatives to assess exposure

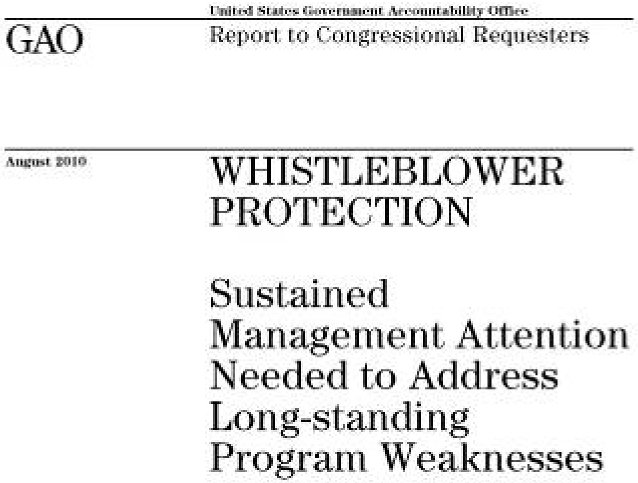
Improve **decision making** and **business performance** through increased insight and business intelligence

Growing Demand for Greater Transparency Into Risk Exposure


WikiLeaks
A timeline of the top leaks
Guantanamo Bay operating procedures
Sarah Palin's email account
2008
BNP membership list
BNP
Trafigura: The Minton Report
2009
Climate Research Unit emails
9/11 pager messages
2010
Iraq Apache helicopter attack
Afghanistan war log files

STANDARD
&POOR'S

Moody's

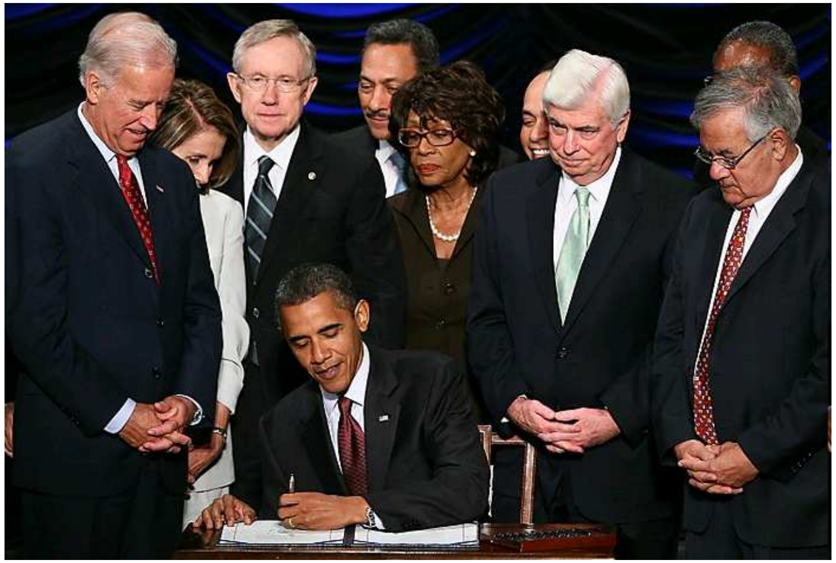

United States Government Accountability Office

GAO | Report to Congressional Requesters

August 2010

WHISTLEBLOWER PROTECTION

Sustained Management Attention Needed to Address Long-standing Program Weaknesses

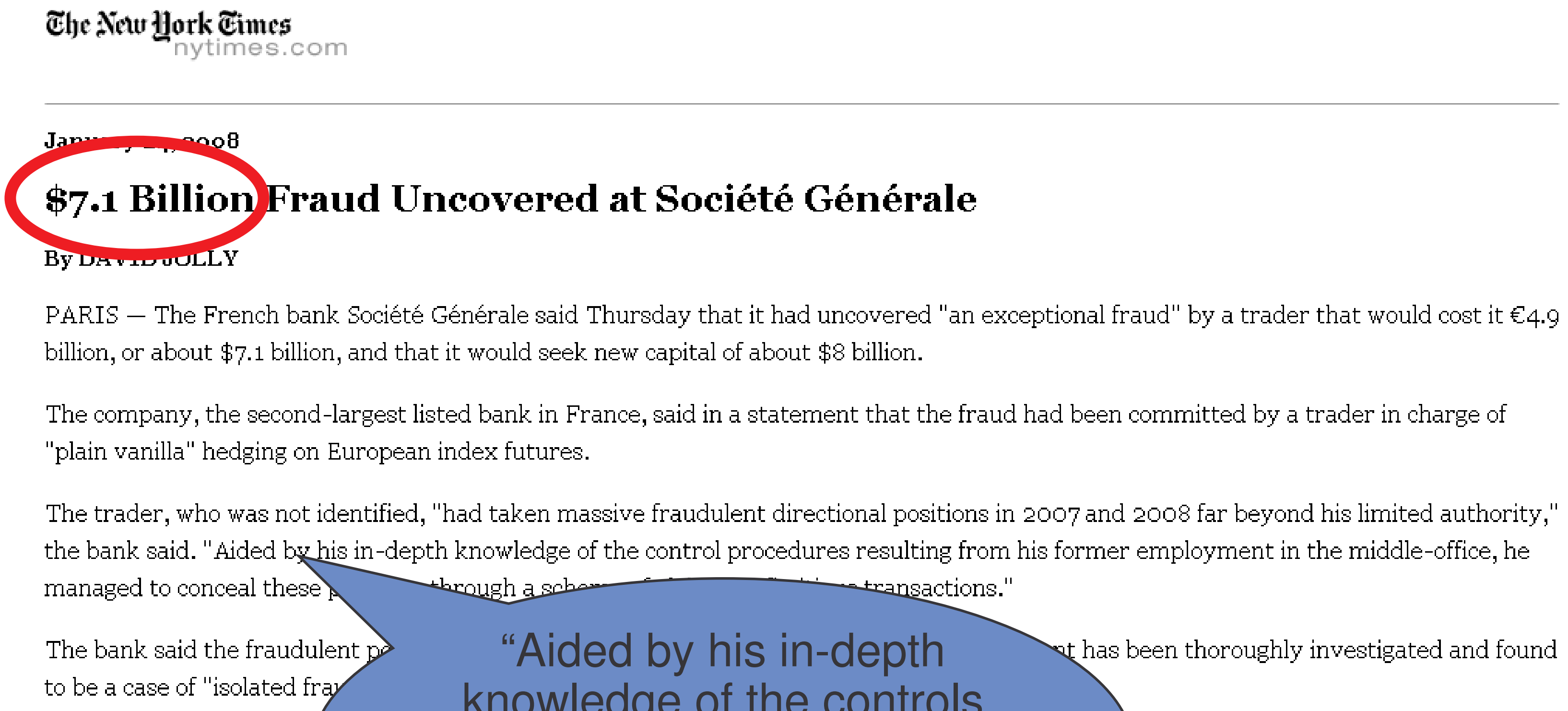


SEC proxy disclosure rules require a transparent approach to risk management

“Disclose the extent of the board’s role in the risk oversight of the registrant, **such as how the board administers its oversight function**, and the effect that this has on the board’s leadership structure.”

SECURITIES AND EXCHANGE COMMISSION,
17 CFR PARTS 229, 239, 240, 249 and 274

The stakes are enormous



The New York Times
nytimes.com

January 24, 2008

$7.1 Billion Fraud Uncovered at Société Générale

By DAVID JOLLY

PARIS — The French bank Société Générale said Thursday that it had uncovered "an exceptional fraud" by a trader that would cost it €4.9 billion, or about $7.1 billion, and that it would seek new capital of about $8 billion.

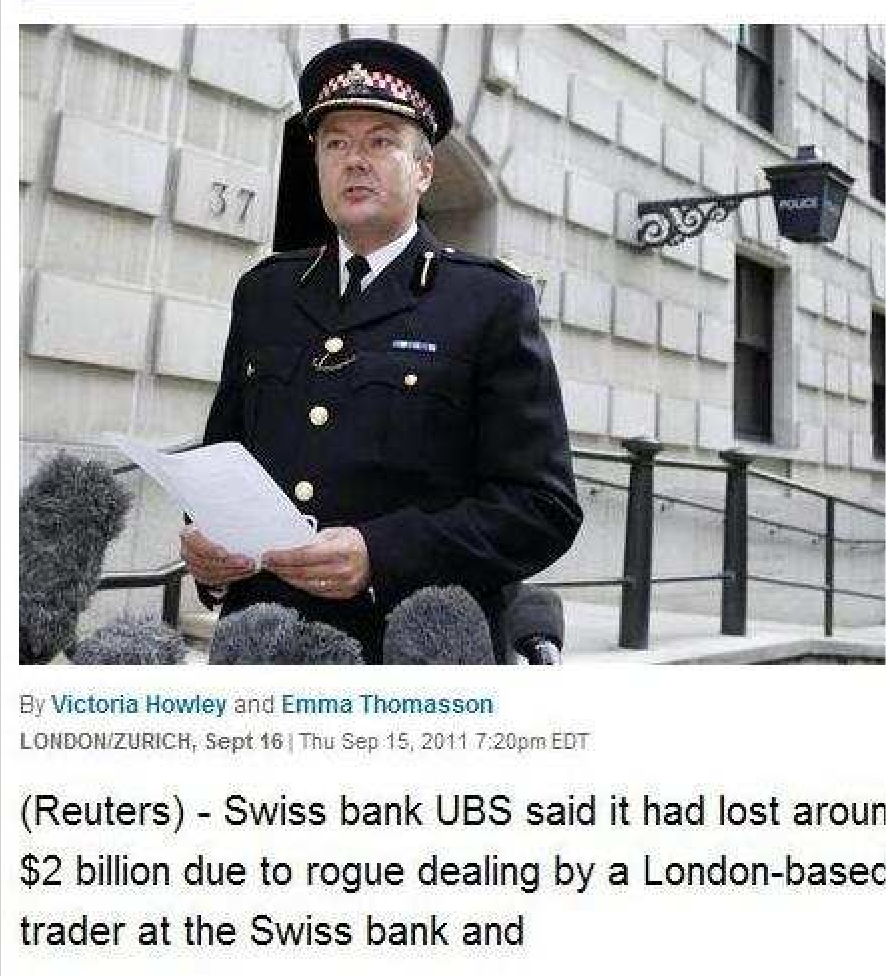
The company, the second-largest listed bank in France, said in a statement that the fraud had been committed by a trader in charge of "plain vanilla" hedging on European index futures.

The trader, who was not identified, "had taken massive fraudulent directional positions in 2007 and 2008 far beyond his limited authority," the bank said. "Aided by his in-depth knowledge of the control procedures resulting from his former employment in the middle-office, he managed to conceal these p through a sche transactions."

The bank said the fraudulent p nt has been thoroughly investigated and found to be a case of "isolated fra

"Aided by his in-depth knowledge of the controls procedures resulting from his former employment in the middle-office…"

UBS: Rogue trader causes up to $2 billion in losses



By Victoria Howley and Emma Thomasson
LONDON/ZURICH, Sept 16 | Thu Sep 15, 2011 7:20pm EDT

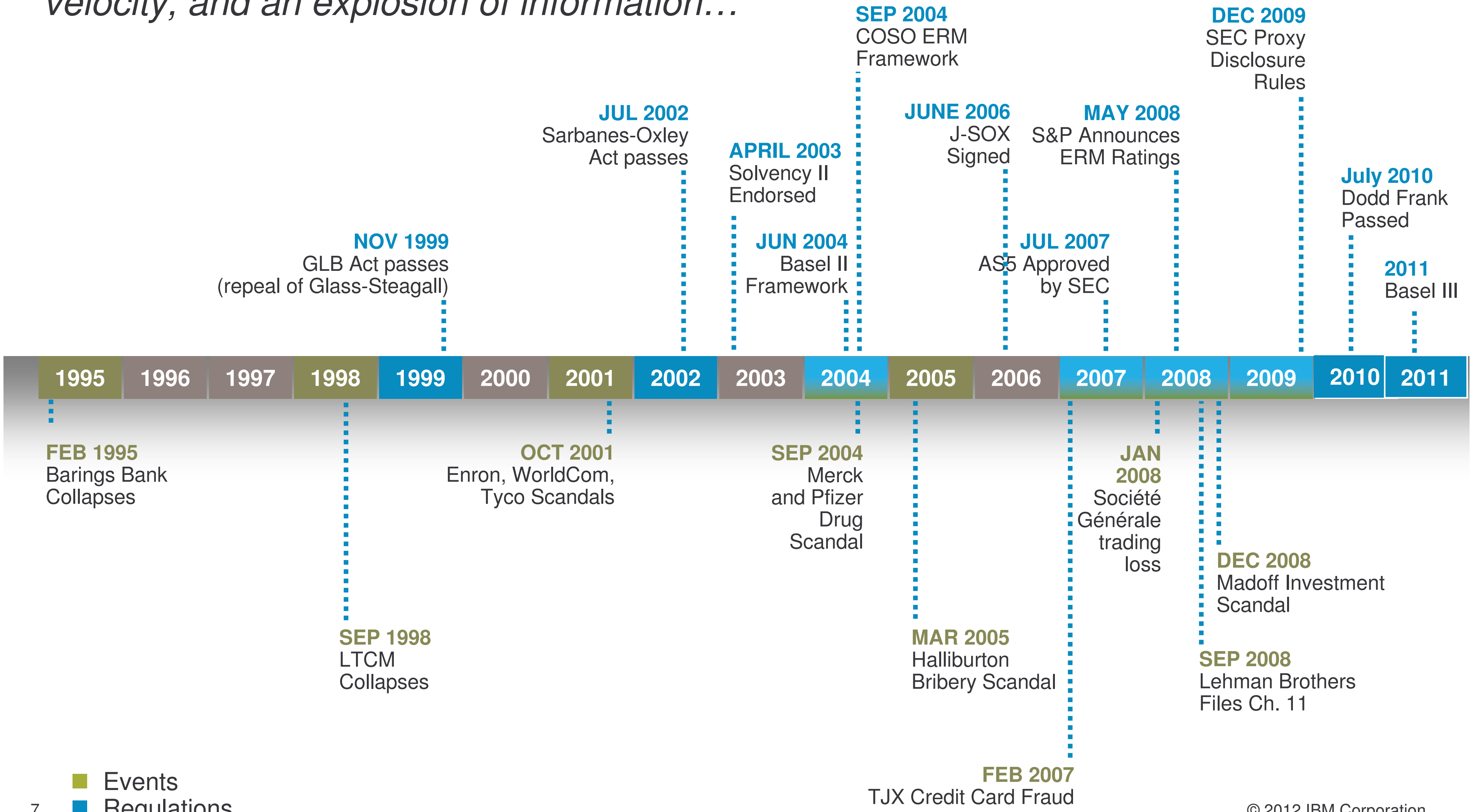
(Reuters) - Swiss bank UBS said it had lost aroun $2 billion due to rogue dealing by a London-basec trader at the Swiss bank and

Since the news broke, questions have emerged about the efficacy of UBS's risk-management and risk-control systems, which were overhauled in the three years since the Swiss bank had to write down $50 billion in securities trades.

The loss is a major embarrassment for a bank that was still working to win back client confidence following its near-collapse at the height of the financial crisis in 2008.

Risk has never been a bigger challenge than in today's business environment

…new regulations, globalization, increased risk and business velocity, and an explosion of information…



FEB 1995
Barings Bank Collapses

SEP 1998
LTCM Collapses

NOV 1999
GLB Act passes (repeal of Glass-Steagall)

OCT 2001
Enron, WorldCom, Tyco Scandals

JUL 2002
Sarbanes-Oxley Act passes

APRIL 2003
Solvency II Endorsed

JUN 2004
Basel II Framework

SEP 2004
COSO ERM Framework

SEP 2004
Merck and Pfizer Drug Scandal

MAR 2005
Halliburton Bribery Scandal

JUNE 2006
J-SOX Signed

FEB 2007
TJX Credit Card Fraud

JUL 2007
AS5 Approved by SEC

JAN 2008
Société Générale trading loss

MAY 2008
S&P Announces ERM Ratings

SEP 2008
Lehman Brothers Files Ch. 11

DEC 2008
Madoff Investment Scandal

DEC 2009
SEC Proxy Disclosure Rules

July 2010
Dodd Frank Passed

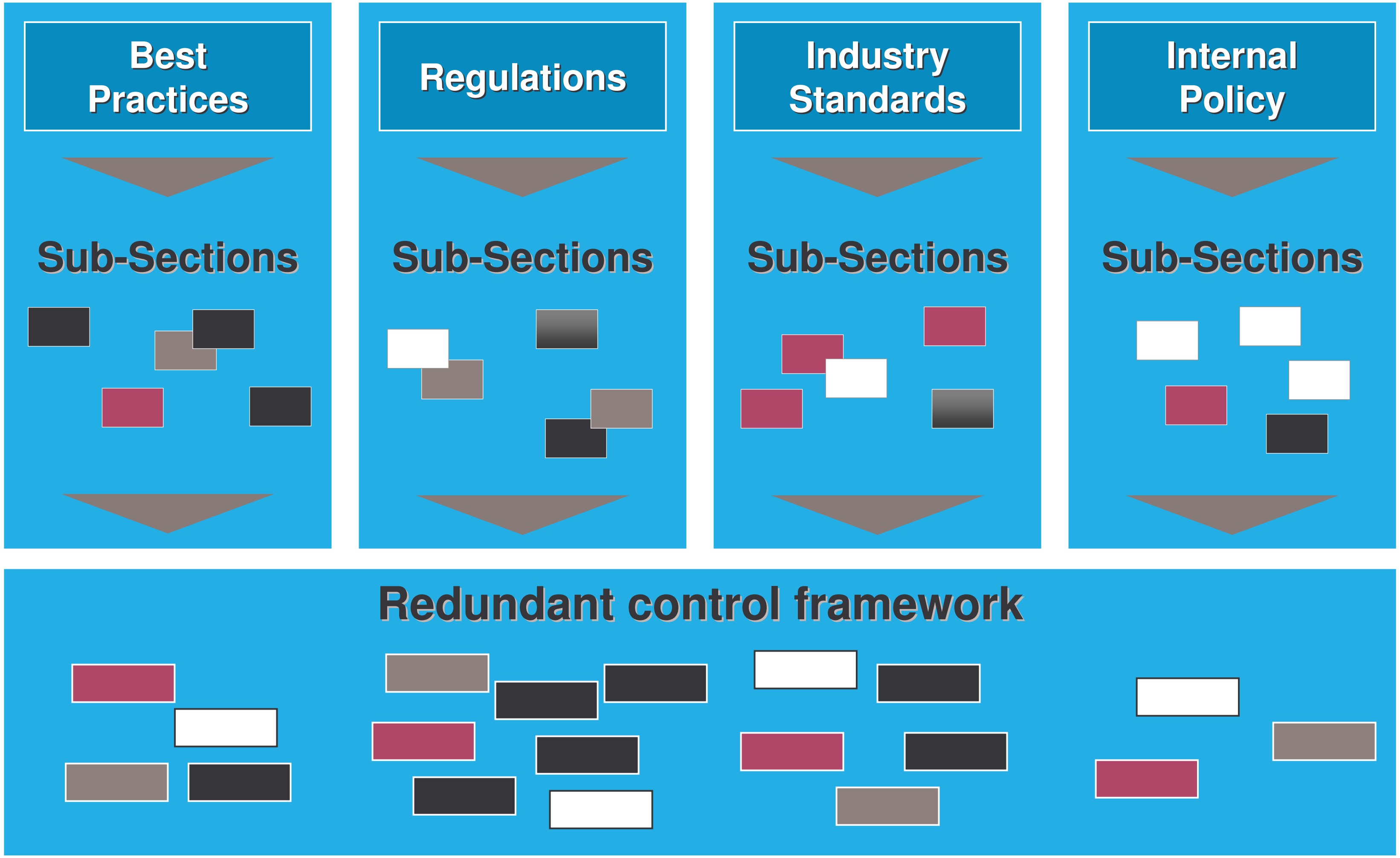
2011
Basel III

🟩 Events
🟦 Regulations

Most companies cannot keep pace, and we can expect continued evolution

- New regulations doubling every six years
- Most process controls and risk management implemented manually
- Risk management focused on compliance not performance
- Compliance focused on regulations, no value add

The Siloed Approach



Best Practices

Regulations

Industry Standards

Internal Policy

Sub-Sections

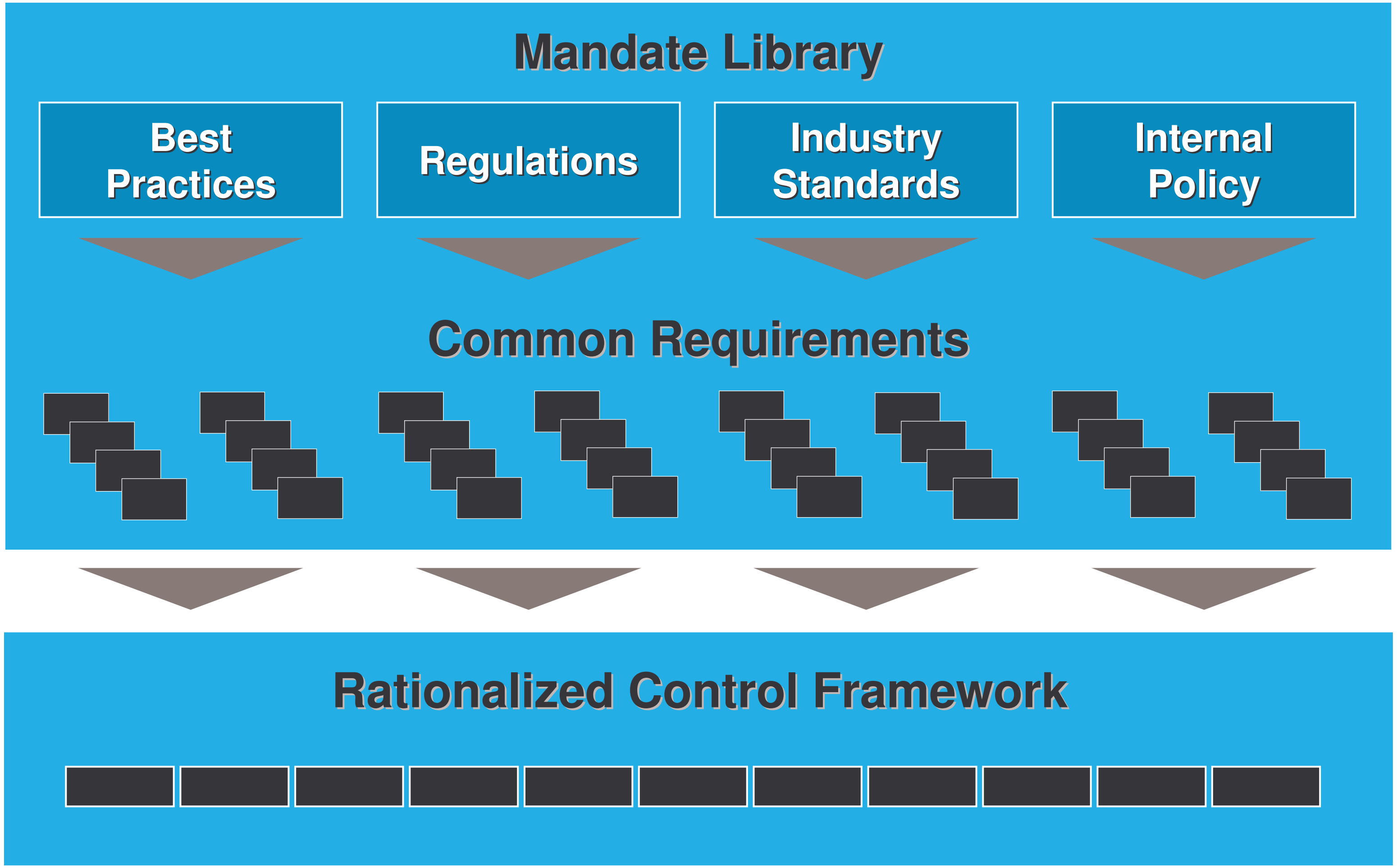
Sub-Sections

Sub-Sections

Sub-Sections

Redundant control framework

The Integrated Approach



Mandate Library

Best Practices

Regulations

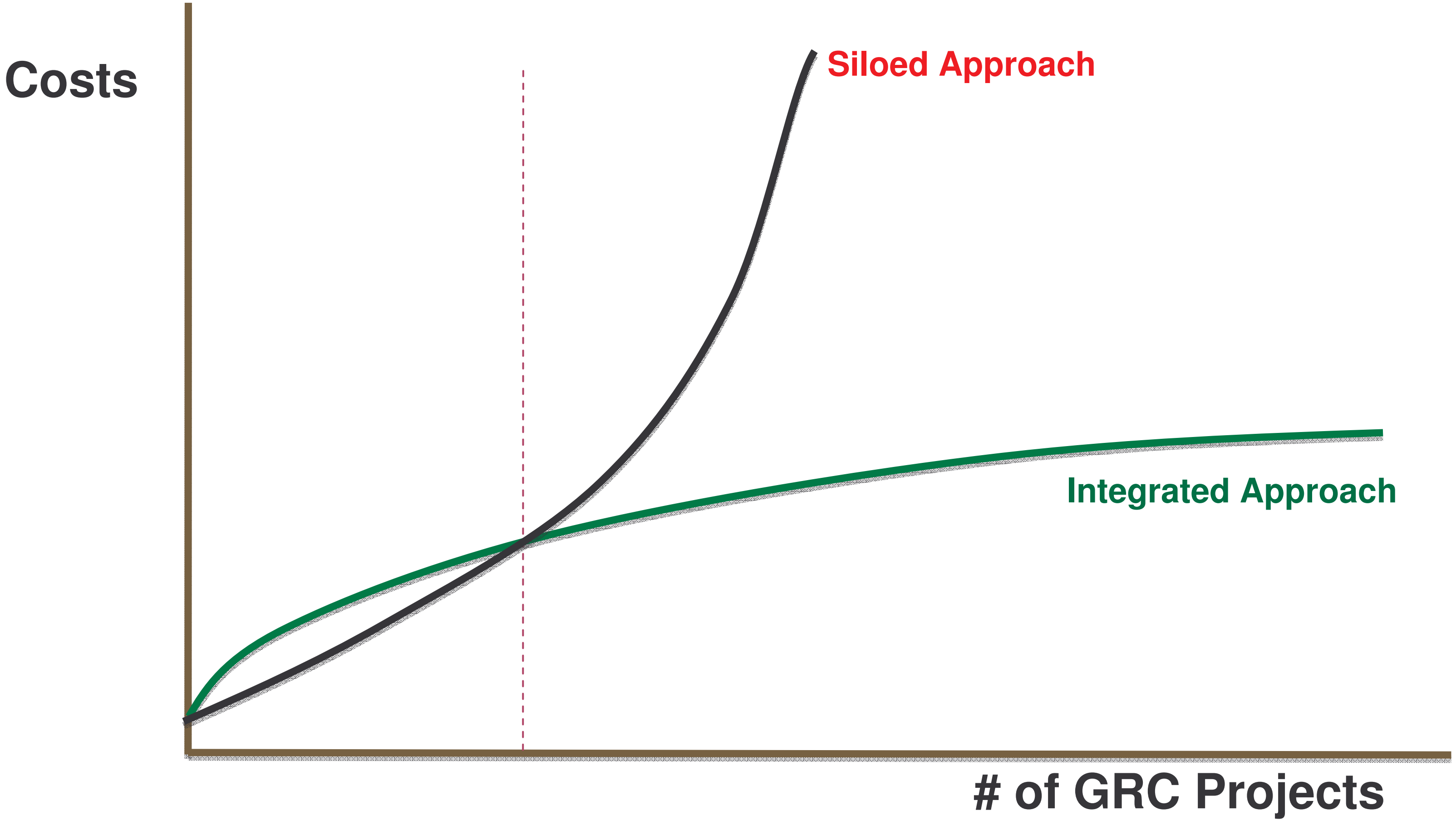
Industry Standards

Internal Policy

Common Requirements

Rationalized Control Framework

The Siloed vs Integrated Approach



Example: Many regulations have common requirements

Sarbanes Oxley

- Conduct risk, threat and **security vulnerability assessments**
- Design, implement and audit appropriate **security controls**

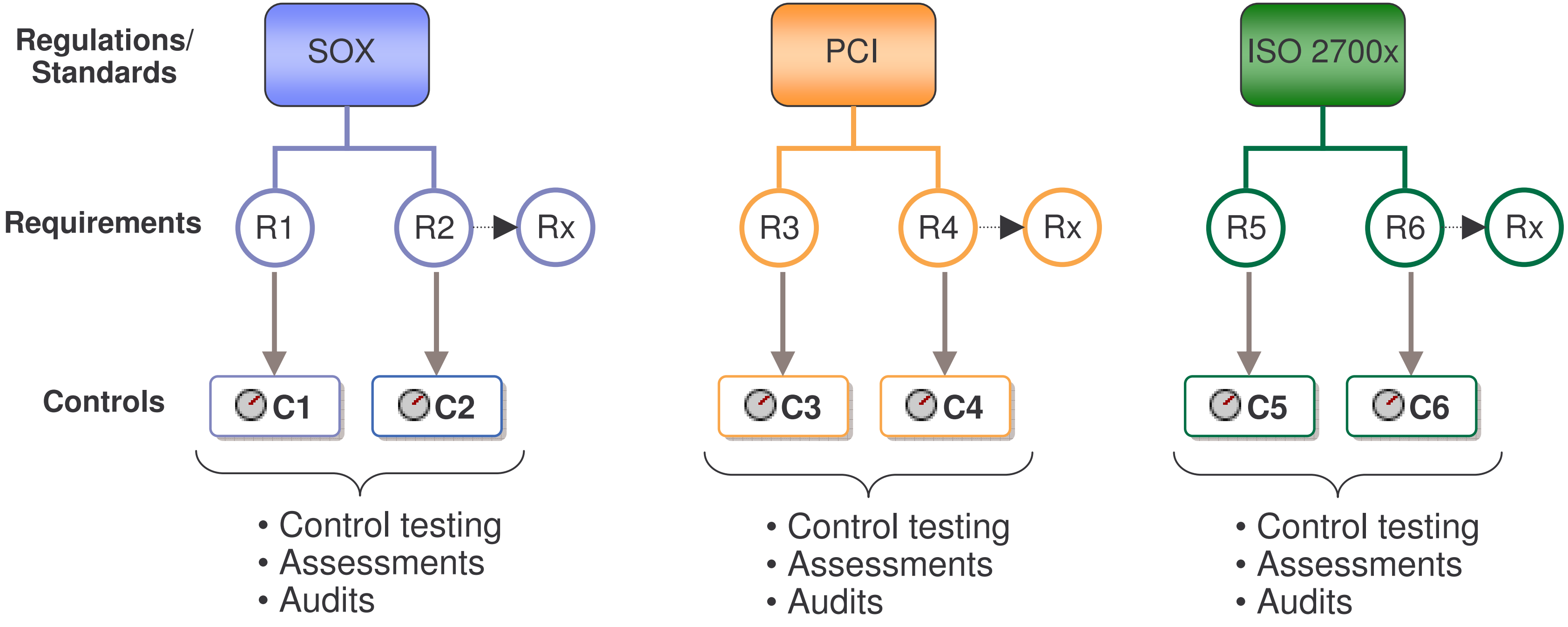
PCI DSS Requirement 6.6

- Ensure that all web-facing applications are **protected against known attacks**
  - Have all custom application code reviewed for common **vulnerabilities**
  - Install an **application layer firewall** in front of web-facing applications

HIPAA Security Rule

- Implement appropriate **security measures** to address the risks identified in the risk analysis;
- Maintain continuous, reasonable, and appropriate **security protections**.

Example: Managing regulatory requirements in a silo

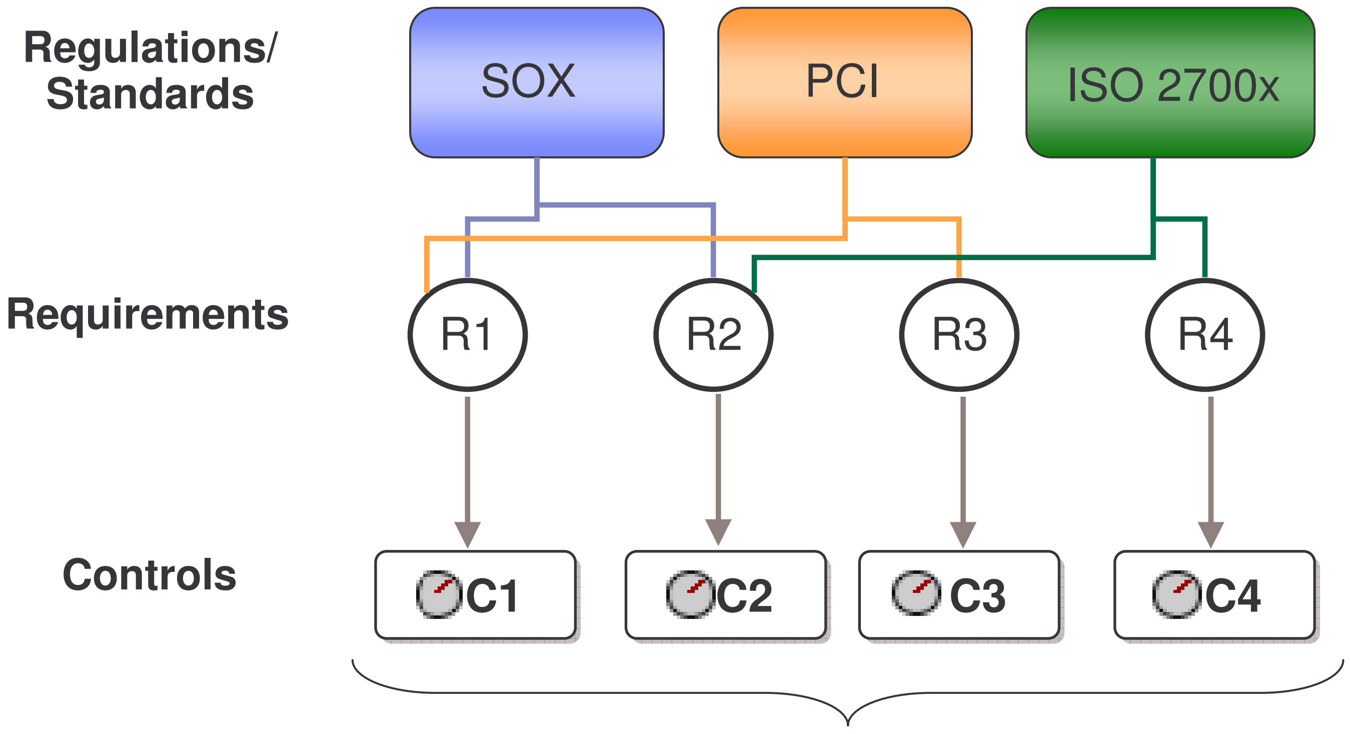


- Control testing
- Assessments
- Audits

- Control testing
- Assessments
- Audits

- Control testing
- Assessments
- Audits

An integrated approach reduces redundancies in control testing, assessments and audits



- Control testing
- Assessments
- Audits

An integrated approach can also reduce duplication across the spectrum of oversight activities

ACTIVITIES

FUNCTIONS	Assessment	Control Testing	Reporting	Issue Mgmt	Policy Mgmt
Risk	✓	✓	✓	✓	✓
Compliance	✓	✓	✓	✓	✓
IT	✓	✓	✓	✓	✓
Finance	✓	✓	✓	✓	✓
Audit	✓	✓	✓	✓	✓

2010 OCEG GRC Maturity Survey

"Companies that integrate GRC do better and can demonstrate value of the improvement beyond enhanced compliance capability and risk management."

OCEG
DRIVING PRINCIPLED PERFORMANCE

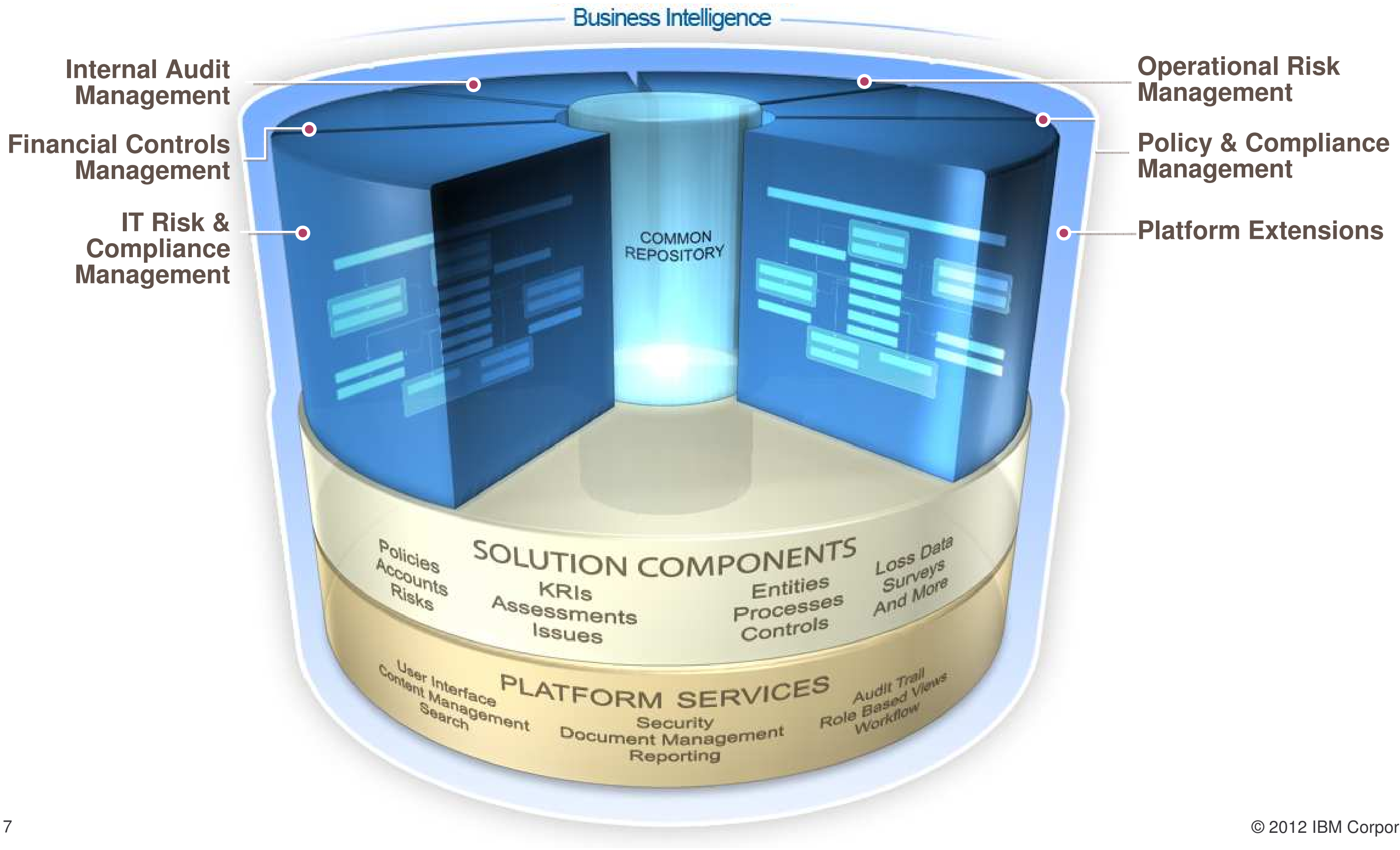
A REVIEW OF THE
2010 GRC MATURITY SURVEY
AND OTHER RESEARCH

February 3rd, 2011

Source: OCEG 2010 GRC Maturity Survey

IBM OpenPages GRC Platform integrates key risk and compliance functions

Business Analytics software



IBM OpenPages Operational Risk Management

Provides an Integrated Operational Risk Management Solution

Key Features

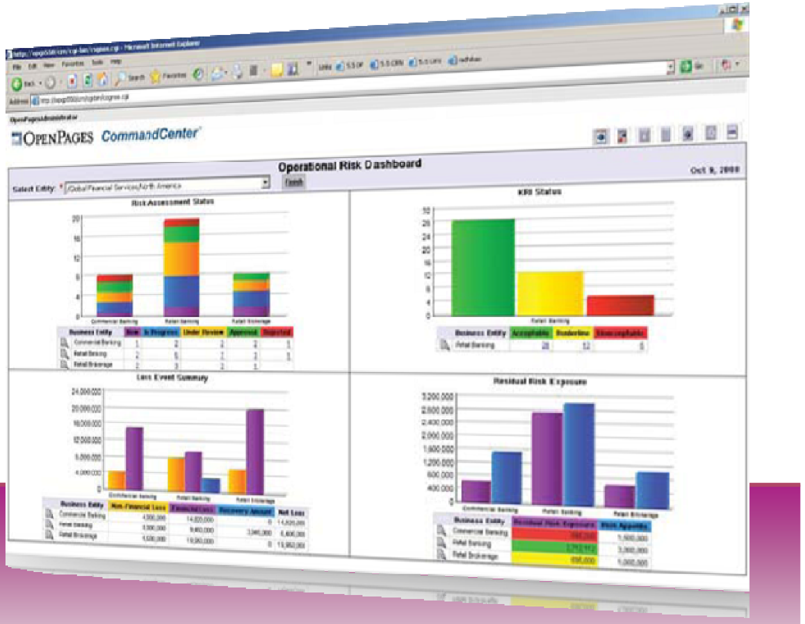
Risk Management to identify, manage, monitor and report on risks across the enterprise

- Board Reporting
- Business Line decision making

Fully integrated Risk Management capabilities

- Risk Control Self Assessments (RCSA)
- Scenario Analysis
- Key Risk Indicators (KRIs)
- Loss Event database (Internal & External)

IBM OpenPages dashboards deliver actionable reporting on current state of risk



Business Benefits

- Understand and proactively manage the risks that can impact the business
- Improve enterprise risk processes by integrating key risk data (e.g. loss events with RCSA)
- Standardize risk reporting across the enterprise

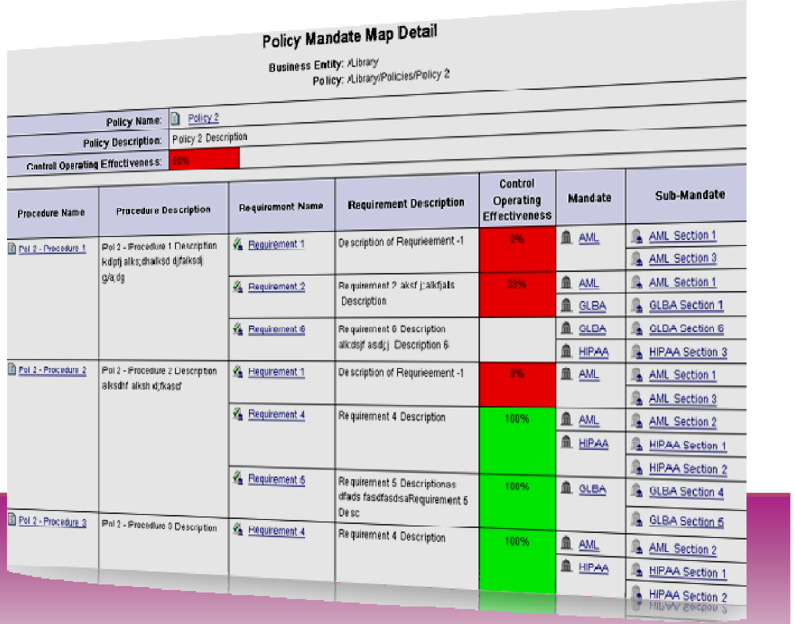
IBM OpenPages Policy Compliance Management

Sustain Compliance Across Multiple Regulatory Mandates

Key Features

- Integrated solution for managing regulatory and policy compliance
- Assess enterprise compliance requirements at the business unit, process or local level
- Policy and procedure management
- Training and communication
- Support for the regulatory certification and audit process

Executive dashboards provide visibility, control and decision support required for regulatory compliance and to optimize business performance.



Policy Mandate Map Detail

Business Entity: /Library
Policy: /Library/Policies/Policy 2

Policy Name:	Policy 2
Policy Description:	Policy 2 Description
Control Operating Effectiveness:	50%

Procedure Name	Procedure Description	Requirement Name	Requirement Description	Control Operating Effectiveness	Mandate	Sub-Mandate
Pol 2 - Procedure 1	Pol 2 - Procedure 1 Description kdipfj alks;dhalksd djfalksdj g/a;dg	Requirement 1	Description of Requrieement -1	0%	AML	AML Section 1 AML Section 3
		Requirement 2	Requirement 2 aksf j;alkfjals Description	33%	AML GLBA	AML Section 1 GLBA Section 1
		Requirement 6	Requirement 6 Description alk;dsjf asdj;j Description 6		GLBA HIPAA	GLBA Section 6 HIPAA Section 3
Pol 2 - Procedure 2	Pol 2 - Procedure 2 Description alksdhf alksh d;fkasdf	Requirement 1	Description of Requrieement -1	0%	AML	AML Section 1 AML Section 3
		Requirement 4	Requirement 4 Description	100%	AML HIPAA	AML Section 2 HIPAA Section 1 HIPAA Section 2
		Requirement 5	Requirement 5 Descriptionas dfads fasdfasdsaRequirement 5 Desc	100%	GLBA	GLBA Section 4 GLBA Section 5
Pol 2 - Procedure 3	Pol 2 - Procedure 3 Description	Requirement 4	Requirement 4 Description	100%	AML HIPAA	AML Section 2 HIPAA Section 1 HIPAA Section 2

Business Benefits

- Standardize compliance across regulations to reduce cost and deliver a holistic understanding of all compliance risk
- Provide confidence that compliance is achieved, risks are mitigated and corporate policies and procedures are enforced

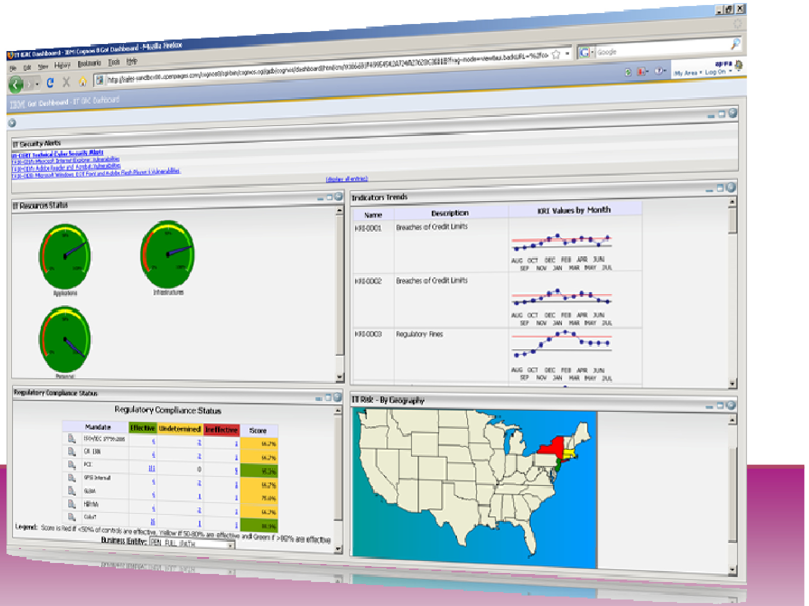
IBM OpenPages IT Governance

Aligning IT risk and operations management with business objectives

Key Features

- Integrated solution for managing IT Risk and compliance
  - Assess IT risk in context of business
  - Identify key risks, controls and/or gaps
- Support for the regulatory certification and audit process
- Optimize your control environment
- Track and manage common requirements across laws, regulations, standards and policies
- Integrated with UCF, the industry's most comprehensive IT compliance database

IBM OpenPages ITG delivers a policy-driven, process-centric way to manage IT risk and compliance.



Business Benefits

- Manage internal IT controls and risk according to the business processes they support
- Unites multiple silos of IT risk and compliance to deliver improved visibility, better decision support, and enhanced corporate performance

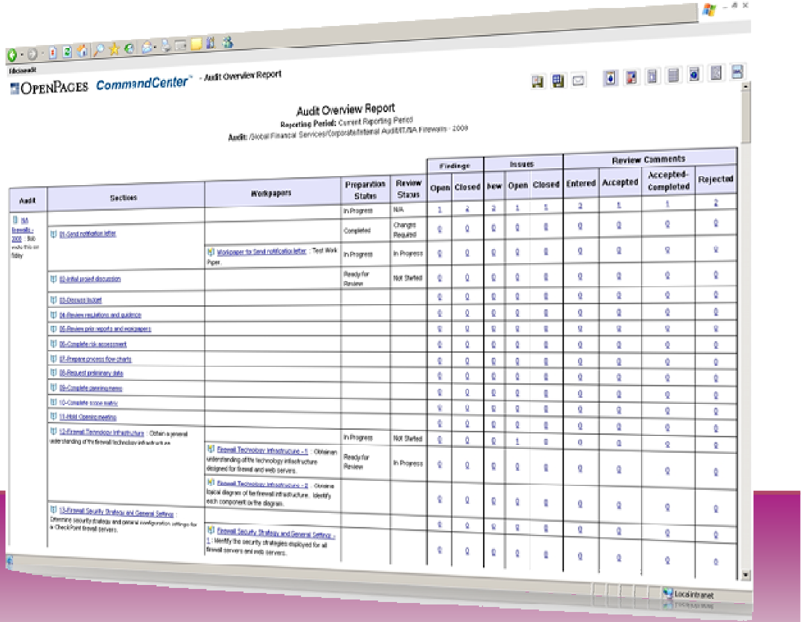
IBM OpenPages Internal Audit Management

Providing independent assurance to the business

Key Features

- Integrated solution for audit management
- Define, plan, execute and report on audits across the business
  - Track and manage audits, audit phases, work papers and allocations
- Automate operations through fully configurable reporting and workflow
- Risk rank audit universe, configured according to the audit methodology

IBM OpenPages Internal Audit Management enables organizations to plan, execute, report and review their audit universe.



Audit Overview Report

Reporting Period: Current Reporting Period

Audit: /Global Financial Services/Corporate/Internal Audit/IT/IA Firewalls - 2008

Audit	Sections	Workpapers	Preparation Status	Review Status	Findings		Issues			Review Comments			
					Open	Closed	New	Open	Closed	Entered	Accepted	Accepted-Completed	Rejected
IA Firewalls - 2008 : Rob [illegible]			In Progress	N/A	1	2	3	1	1	3	1	1	2
	01-Send notification letter		Completed	Changes Required	0	0	0	0	0	0	0	0	0
		Workpaper to Send notification letter : Test Work Paper.	In Progress	In Progress	0	0	0	0	0	0	0	0	0
	02-Initial project discussion		Ready for Review	Not Started	0	0	0	0	0	0	0	0	0
	03-Discuss budget				0	0	0	0	0	0	0	0	0
	04-Review regulations and guidance				0	0	0	0	0	0	0	0	0
	05-Review prior reports and workpapers				0	0	0	0	0	0	0	0	0
	06-Complete risk assessment				0	0	0	0	0	0	0	0	0
	07-Prepare process flow charts				0	0	0	0	0	0	0	0	0
	08-Request preliminary data				0	0	0	0	0	0	0	0	0
	09-Complete planning memo				0	0	0	0	0	0	0	0	0
	10-Complete scope matrix				0	0	0	0	0	0	0	0	0
	11-Hold Opening meeting				0	0	0	0	0	0	0	0	0
	12-Firewall Technology Infrastructure : Obtain a general understanding of the firewall technology infrastructure.		In Progress	Not Started	0	0	0	1	0	0	0	0	0
		Firewall Technology Infrastructure - 1 : Obtain an understanding of the technology infrastructure designed for firewall and web servers.	Ready for Review	In Progress	0	0	0	0	0	0	0	0	0
		Firewall Technology Infrastructure - 2 : Obtain a logical diagram of the firewall infrastructure. Identify each component in the diagram.			0	0	0	0	0	0	0	0	0
	13-Firewall Security Strategy and General Setting : Determine security strategy and general configuration settings for a CheckPoint firewall servers.				0	0	0	0	0	0	0	0	0
		Firewall Security Strategy and General Setting - 1 : Identify the security strategies deployed for all firewall servers and web servers.			0	0	0	0	0	0	0	0	0

Business Benefits

- Empowers internal audit departments to champion risk management, acting as a strategic partner to management
- Delivers an integrated, closed loop approach to risk management, driving visibility and confidence in organizational risk posture

IBM OpenPages Financial Controls Management

Market-leading Solution for Managing Financial Reporting Risk

Key Features

Automated compliance lifecycle

- Design and documentation through test, review, approval and certification

Central repository

- Document compliance policies and procedures, capturing full audit trails and approvals

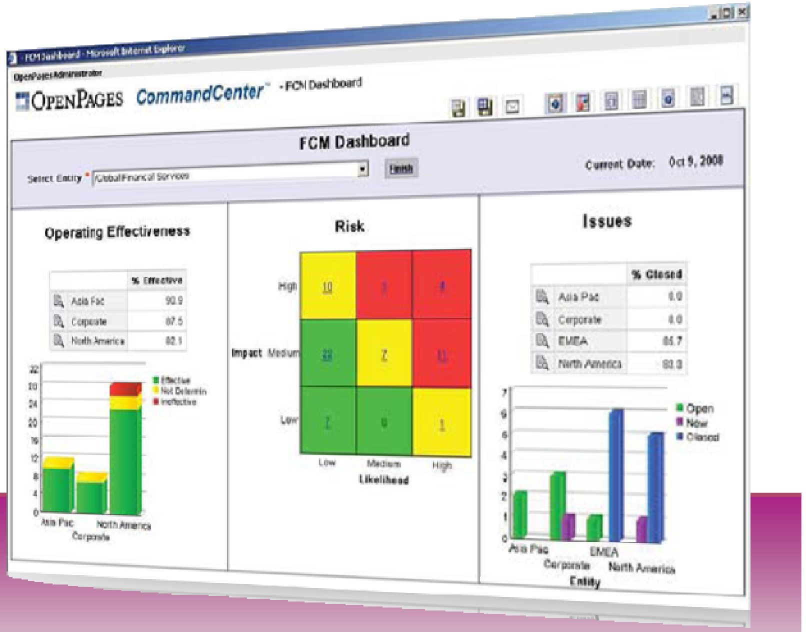
Issues management

- Automate SOX control issues notification and remediation
- Report against critical issues from dashboard

302 and 404 certification

- Reduce costs and streamline efforts with OpenPages InteliClose™ enabling progressive closing

IBM OpenPages FCM dashboards, charts and reports deliver views on the state of financial reporting and compliance.


FCM Dashboard - Microsoft Internet Explorer
OpenPages Administrator
OPENPAGES CommandCenter™ - FCM Dashboard

FCM Dashboard

Select Entity * Global Financial Services

Current Date: Oct 9, 2008

Operating Effectiveness

	% Effective
Asia Pac	90.9
Corporate	87.5
North America	82.1

Impact	Low	Medium	High
High	10	3	8
Medium	22	7	11
Low	7	0	1

Issues

	% Closed
Asia Pac	0.0
Corporate	0.0
EMEA	85.7
North America	83.3

Business Benefits

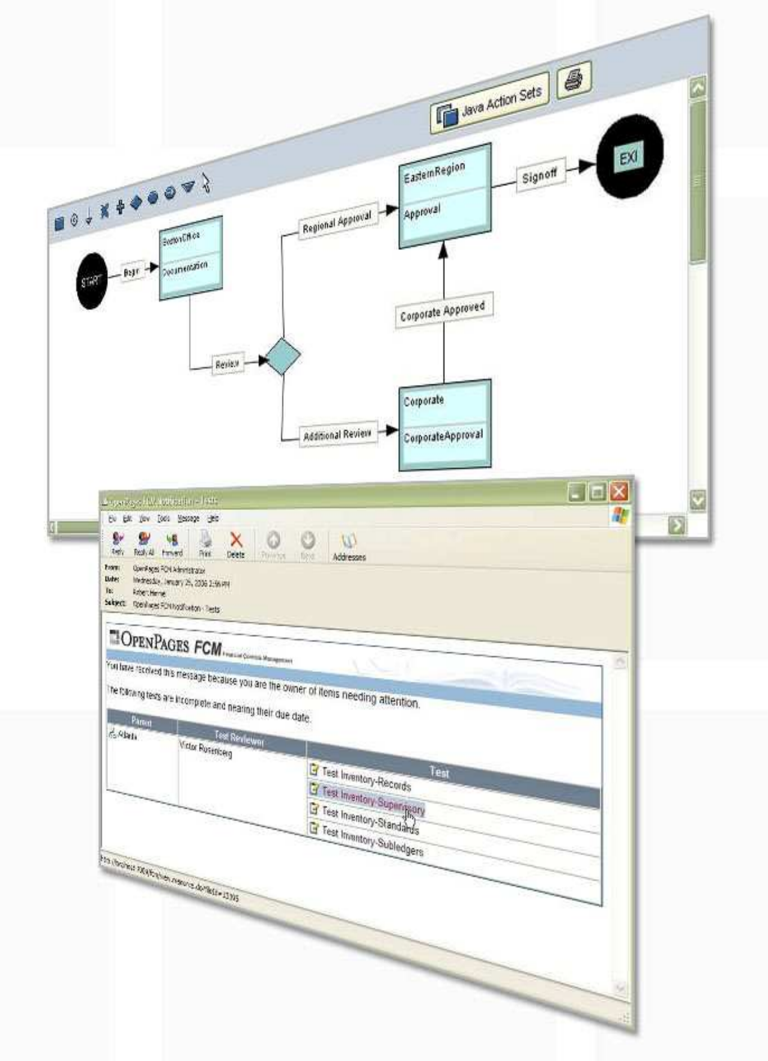
- Secure and centralized management of all financial compliance data
- Provides executive management with assurance into the state of compliance
- Ensures quick issue remediation

Increase Efficiency with Integrated Workflow

Automate Task Assignment, Notifications/Reminders, Data Routing and Tracking, and more…..

Robust workflow establishes and automates consistent best practice processes for:

- Assessing Risk
  - Loss Event Evaluation and Enrichment
  - KRI Management – Threshold Breach Awareness
- Materiality and Quantitative Assessments
  - Process design reviews
  - Control testing
  - Issue remediation
  - Signoffs and Certifications
  - Unlimited flexibility to automate processes
- **Use-case Examples**
  - Alerting Testers and Reviewers when the testing needs to be performed and reviewed
  - Alerting Risk Managers of Key Risk Indicator threshold breaches.
  - Alerting Business Owners of Regulatory Requirement Reviews and Certifications
  - Alerting Process and Entity – Regional & Corporate Owners/Controllers to sign-off on the IC Documentation
  - Alert Issue Owners (Gaps identified by Control Reviewers) in mitigating the issues by exception



From: OpenPages FCM Administrator
Date: Wednesday, January 25, 2006 2:56 PM
To: Robert Herne
Subject: OpenPages FCM Notification - Tests

You have received this message because you are the owner of items needing attention.

The following tests are incomplete and nearing their due date.

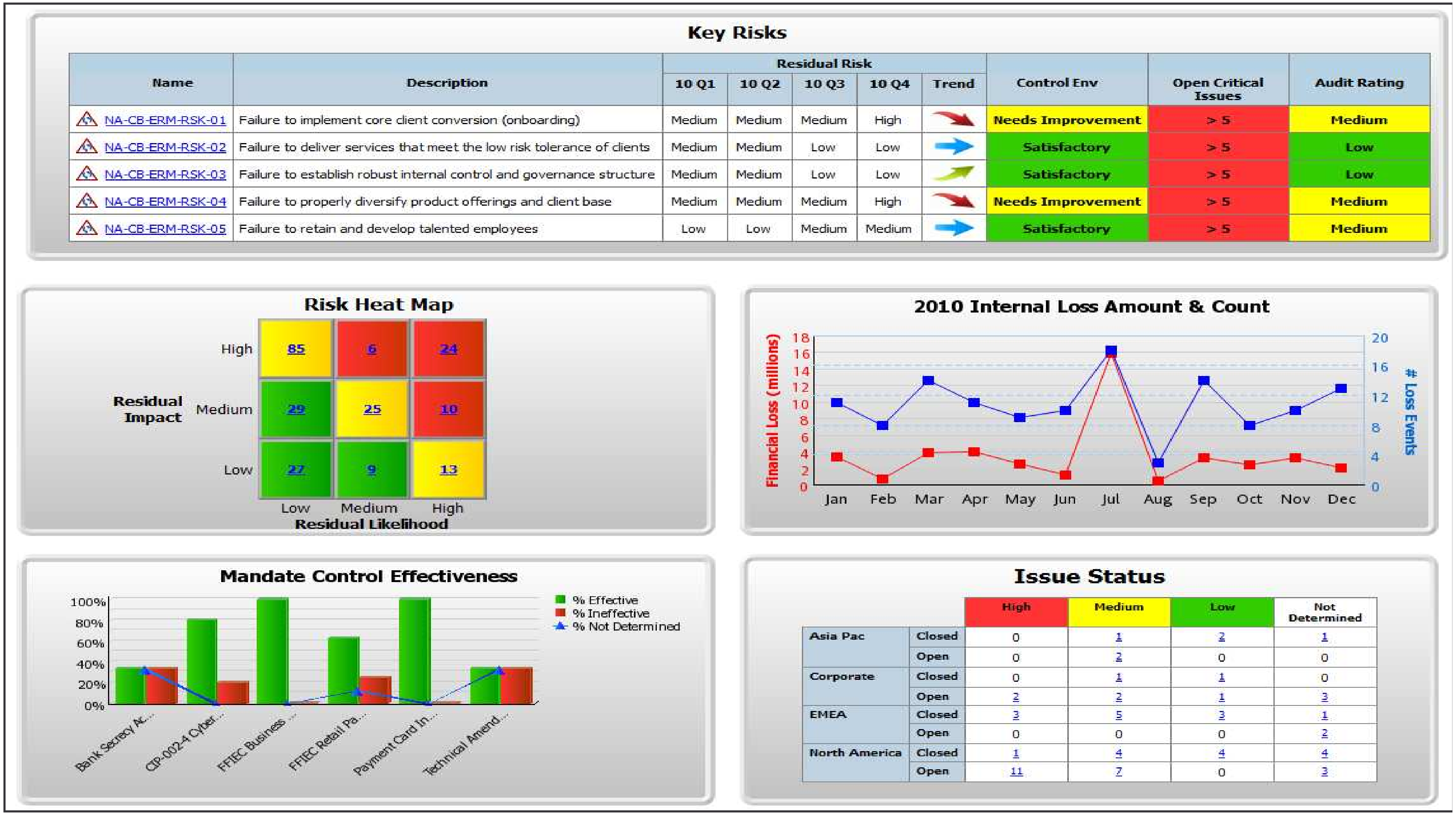
Parent	Test Reviewer	Test
Atlanta	Victor Rosenberg	Test Inventory-Records Test Inventory-Supervisory Test Inventory-Standards Test Inventory-Subledgers

http://localhost:7009/fcm/view.resource.do?fileId=13395

Reporting with IBM Cognos

- Configure **MIS packs** that are **scheduled** and automatically delivered.
- **Provide** rich, interactive, real-time dashboards and reports
- **Enables** drill-down from reports into supporting reports as well as the underlying detail data
- **Provide** comprehensive monitoring and management across the entire business
- **Deliver** executive dashboards and reports and empower the end user
- **Enable** users to design and run reports tailored to their business needs

Executive View: ERM Dashboard



Key Risks

Name	Description	Residual Risk					Control Env	Open Critical Issues	Audit Rating
		10 Q1	10 Q2	10 Q3	10 Q4	Trend			
NA-CB-ERM-RSK-01	Failure to implement core client conversion (onboarding)	Medium	Medium	Medium	High	↘	Needs Improvement	> 5	Medium
NA-CB-ERM-RSK-02	Failure to deliver services that meet the low risk tolerance of clients	Medium	Medium	Low	Low	→	Satisfactory	> 5	Low
NA-CB-ERM-RSK-03	Failure to establish robust internal control and governance structure	Medium	Medium	Low	Low	↗	Satisfactory	> 5	Low
NA-CB-ERM-RSK-04	Failure to properly diversify product offerings and client base	Medium	Medium	Medium	High	↘	Needs Improvement	> 5	Medium
NA-CB-ERM-RSK-05	Failure to retain and develop talented employees	Low	Low	Medium	Medium	→	Satisfactory	> 5	Medium

Risk Heat Map

Residual Impact	Low	Medium	High
High	85	6	24
Medium	29	25	10
Low	27	9	13

Residual Likelihood

2010 Internal Loss Amount & Count

Mandate Control Effectiveness

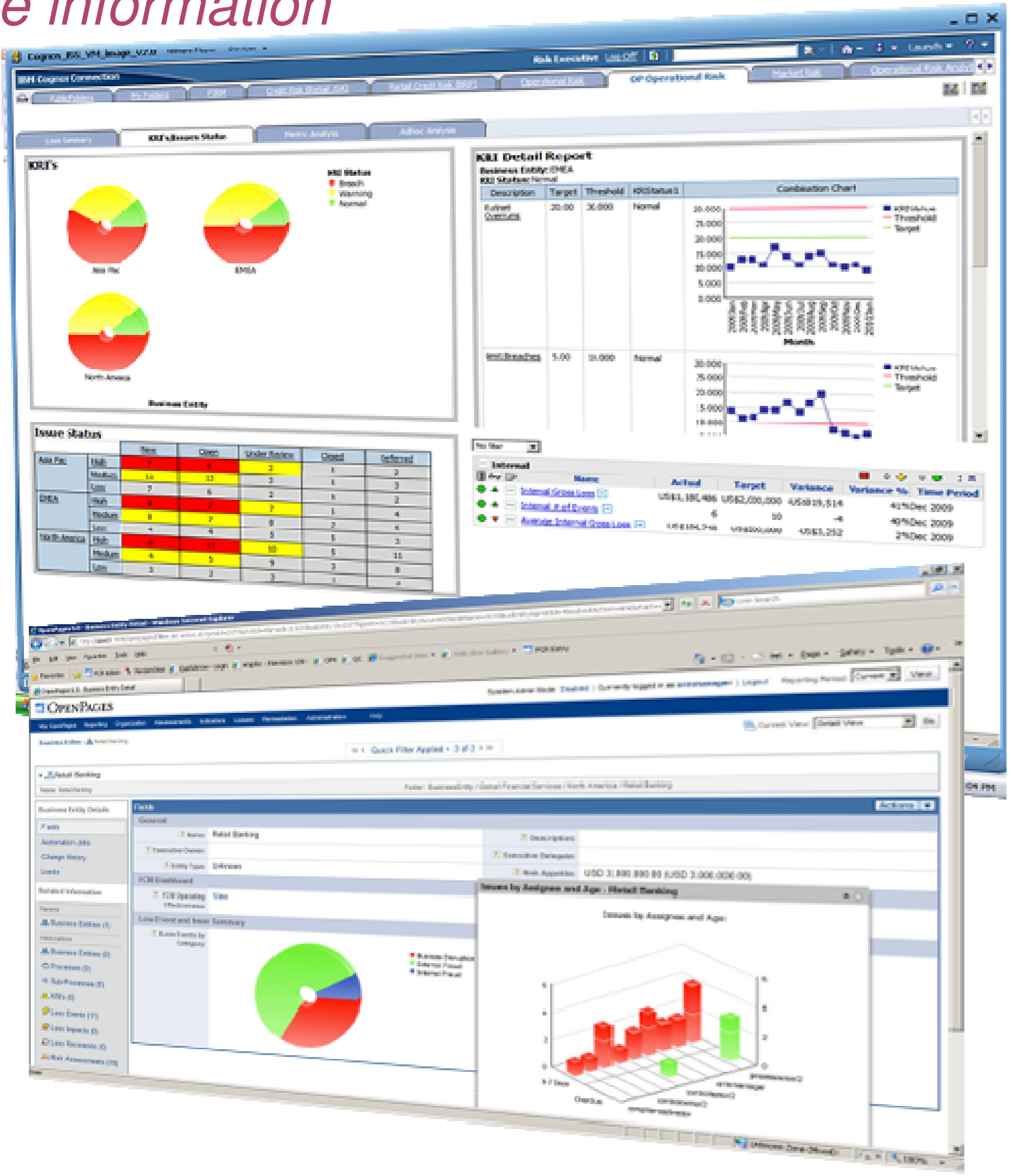
Issue Status

		High	Medium	Low	Not Determined
Asia Pac	Closed	0	1	2	1
	Open	0	2	0	0
Corporate	Closed	0	1	1	0
	Open	2	2	1	3
EMEA	Closed	3	5	3	1
	Open	0	0	0	2
North America	Closed	1	4	4	4
	Open	11	7	0	3

OpenPages – Better Insight through Enhanced BI

Easy access to risk & compliance information

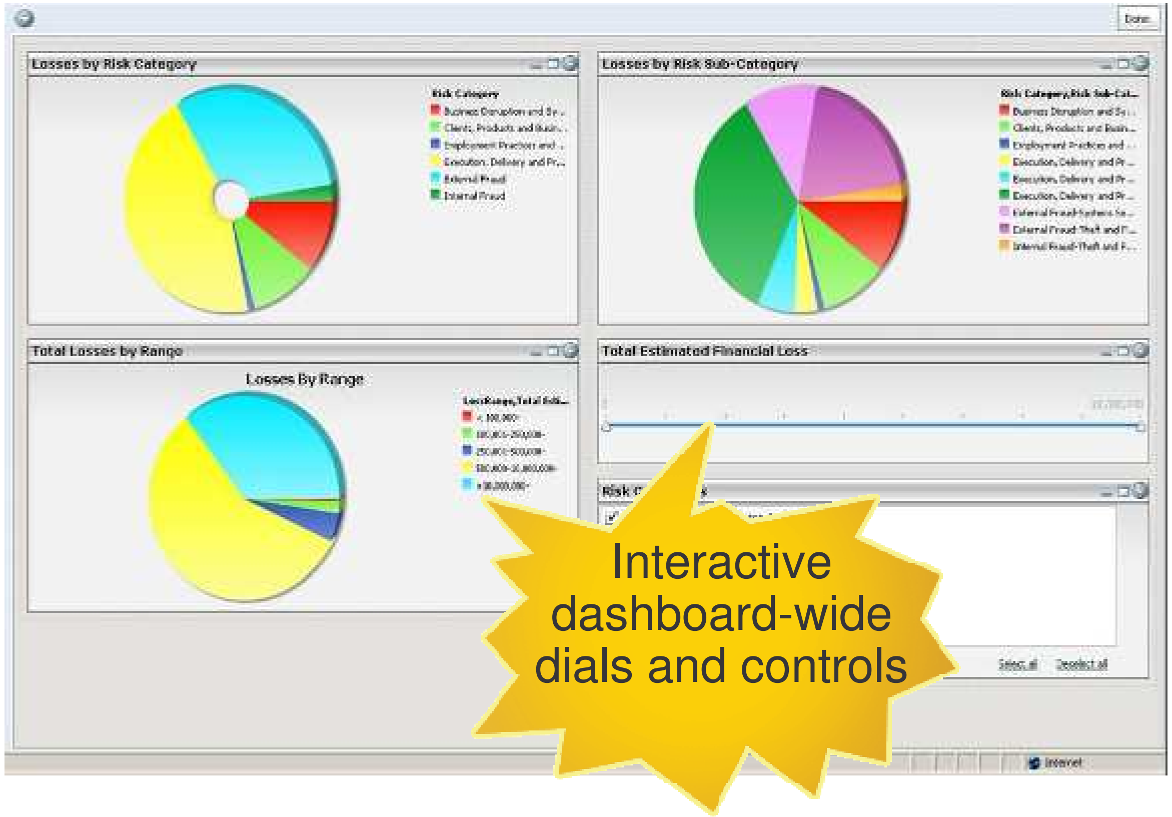
- Leverages Cognos Analysis Studio for dimensional modeling, including charts and graphs; drill up, drill down.
- Easily explore data without involving IT; present data in an informative way
- In context risk and compliance information via Cognos Mashup Service (e.g., assessments in RCSA)



OpenPages – Better Insight through Enhanced BI

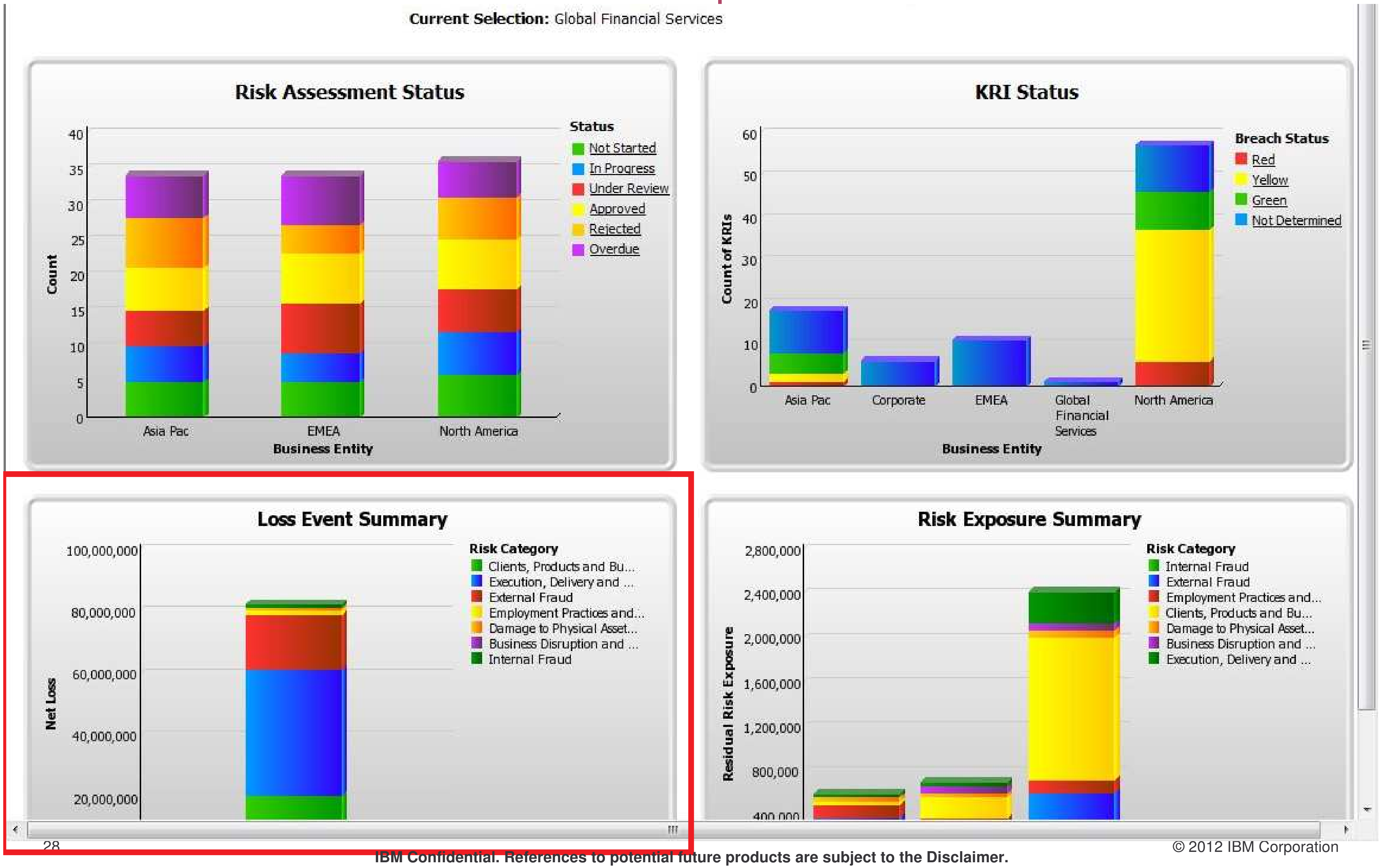
Interactive exploration of risk and compliance information

- Dials and controls on interactive dashboards allow infrequent users to easily explore data along basic dimension
- Integration of Dashboarding into the User's Home Page
- Ideal for senior manager or other infrequent user of system
- Allows business managers to explore risk data in an ad hoc way.


Done
Losses by Risk Category
Risk Category
🟥 Business Disruption and Sy...
🟩 Clients, Products and Busin...
🟦 Employment Practices and ...
🟨 Execution, Delivery and Pr...
🟦 External Fraud
🟩 Internal Fraud
Losses by Risk Sub-Category
Risk Category,Risk Sub-Cat...
🟥 Business Disruption and Sy...
🟩 Clients, Products and Busin...
🟦 Employment Practices and ...
🟨 Execution, Delivery and Pr...
🟦 Execution, Delivery and Pr...
🟩 Execution, Delivery and Pr...
🟪 External Fraud-Systems Se...
🟪 External Fraud-Theft and F...
🟧 Internal Fraud-Theft and F...
Total Losses by Range
Losses By Range
LossRange,Total Esti...
🟥 < 100,000
🟩 100,001-250,000
🟦 250,001-500,000
🟨 500,001-10,000,000
🟦 > 10,000,000
Total Estimated Financial Loss
Risk C
Select all
Deselect all
Internet

Interactive dashboard-wide dials and controls

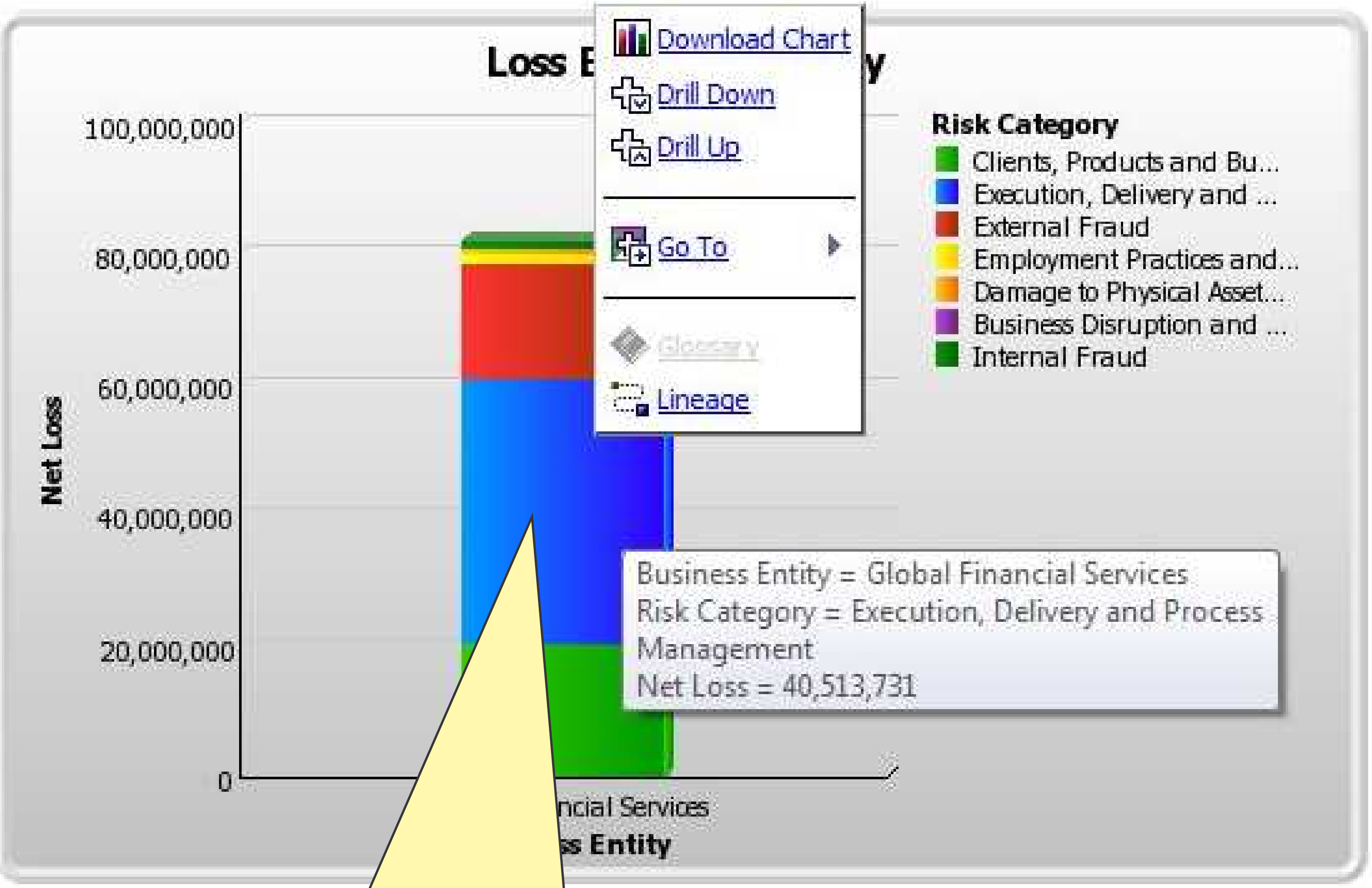
Business User: ORM Dashboard Report



Current Selection: Global Financial Services

IBM Confidential. References to potential future products are subject to the Disclaimer.

Business User: ORM Dashboard

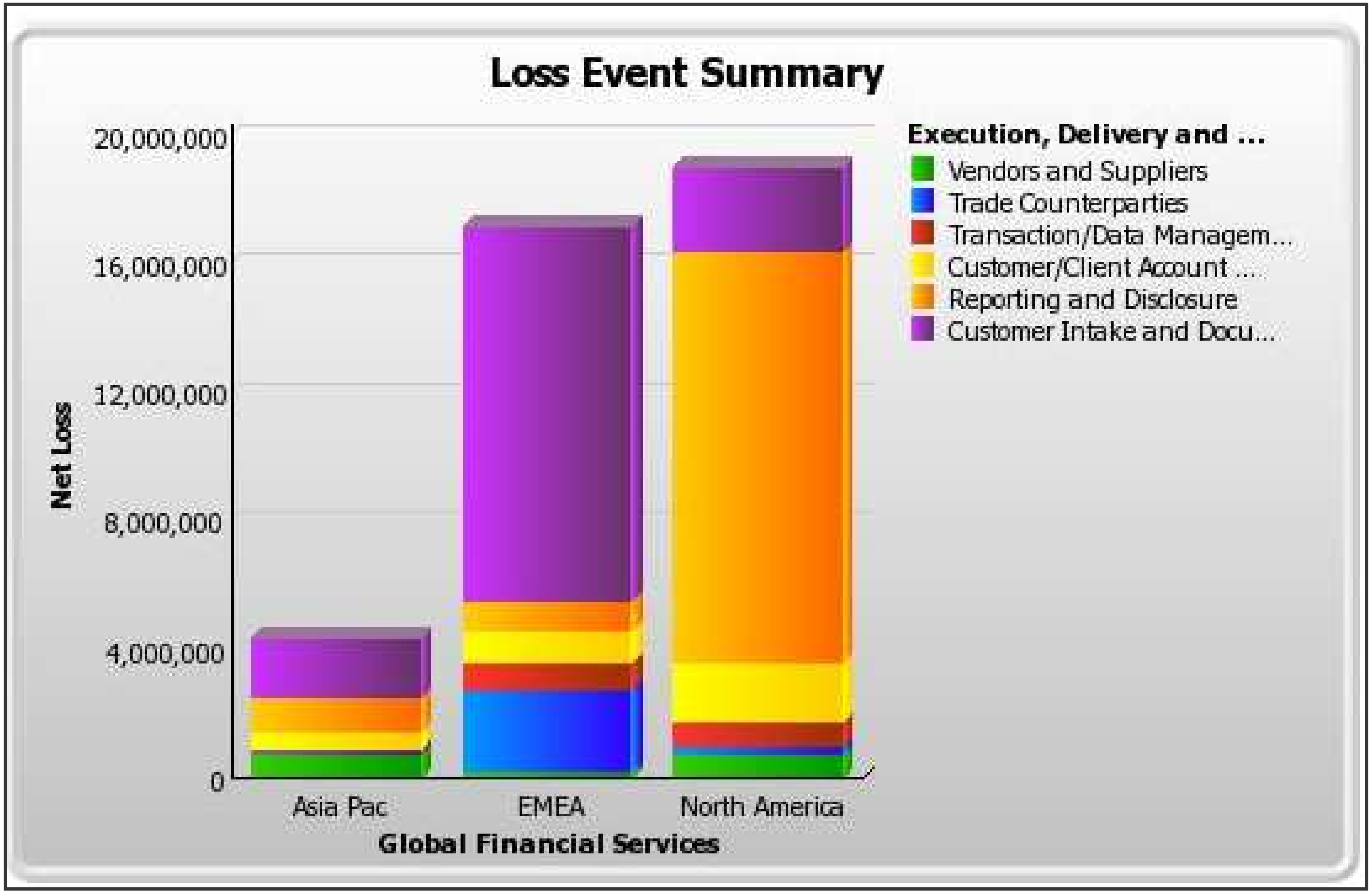


Business Entity = Global Financial Services
Risk Category = Execution, Delivery and Process Management
Net Loss = 40,513,731

Right click on GFS / Execution, Delivery… to see menu options; select drill down

mer.

Business User: ORM Dashboard



Proven by the World's Leading Companies

Financial Services

Lloyds TSB

ORX ASSOCIATION

ING

SUNCORP

QBE

FIRSTRAND

TD Bank
America's Most Convenient Bank®

BARCLAYS

MasterCard

SUNTRUST℠

ABSA
Today, tomorrow, together.

NATIONAL BANK OF GREECE

MACQUARIE

FIRST DATA

BMO Financial Group

ICAP

CommonwealthBank

RBC

Insurance

AVIVA

AIG

GEICO.

Swiss Re

Allianz

Energy and Power

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meteor

CARNIVAL CORPORATION & PLC

BARCLAYS Case Study

Integrated Financial Controls and Operational Risk Management

Business Challenge

- Barclays operates in over 50 countries, employs 147,000 people, and serves over 42 million customers and clients worldwide
- The company had multiple assessments and reports for risks and controls in Operational Risk and Sarbanes-Oxley, which limited reporting options and resulted in high operating costs
- The company was also looking to align their systems to a common risk management framework, a strategic goal for the company

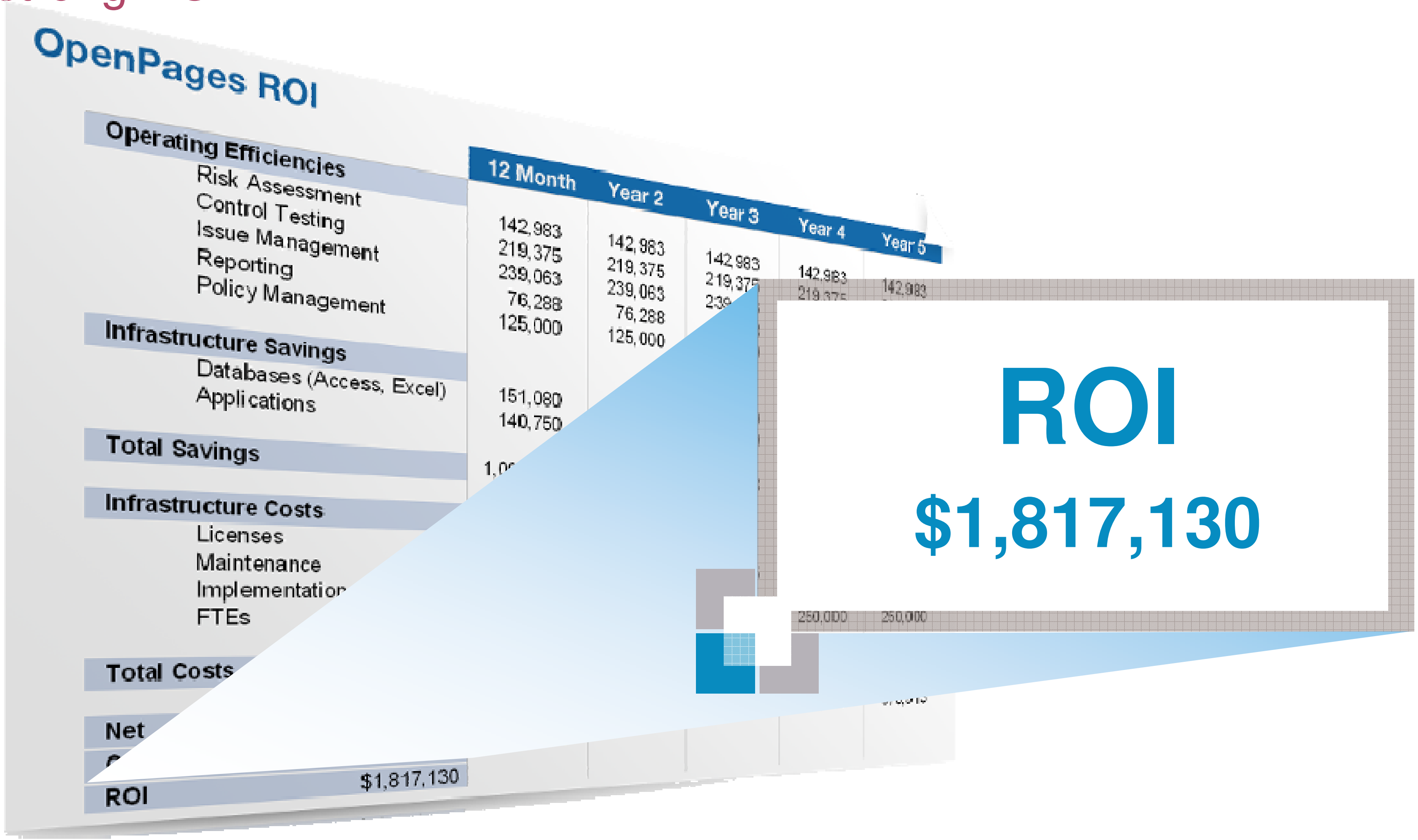
Solution

- Barclays implemented a single, integrated solution for operational risk and financial controls management, which was highly configurable to meet needs of business
- Implemented across UK, Continental Europe, United States Africa, Asia—Over 10,000 users worldwide

Outcome

- Having access to this kind of data on one platform allows the firm to gain a better overall picture of where the risks lie in the entire organization
- Added benefit of saving time and resources in the individual business lines

Alignment across risk and compliance activities promises a strong ROI



OpenPages ROI

	12 Month	Year 2	Year 3	Year 4	Year 5
Operating Efficiencies					
Risk Assessment	142,983	142,983	142,983	142,983	142,983
Control Testing	219,375	219,375	219,375	219,375	
Issue Management	239,063	239,063	239		
Reporting	76,288	76,288			
Policy Management	125,000	125,000			
Infrastructure Savings					
Databases (Access, Excel)	151,080				
Applications	140,750				
Total Savings	1,0				
Infrastructure Costs					
Licenses					
Maintenance				250,000	250,000
Implementation					
FTEs					
Total Costs					
Net					
C					
ROI	$1,817,130				

ROI

$1,817,130

Better Business Outcomes with GRC

Lower costs, reduce redundancy and improve efficiencies by rationalizing your information architecture

Deliver **consistent** and **accurate** information about the state of risk and compliance initiatives to assess exposure

Improve **decision making** and **business performance** through increased insight and business intelligence

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