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ERM – Can Automation Help To Reduce Risk?

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coo SunGard iWorks Asia Pacific
Hong Kong

Meeting the Challenges of Change

14th Global Conference of Actuaries

19th – 21st Feb, 2012 | Mumbai, India

Context

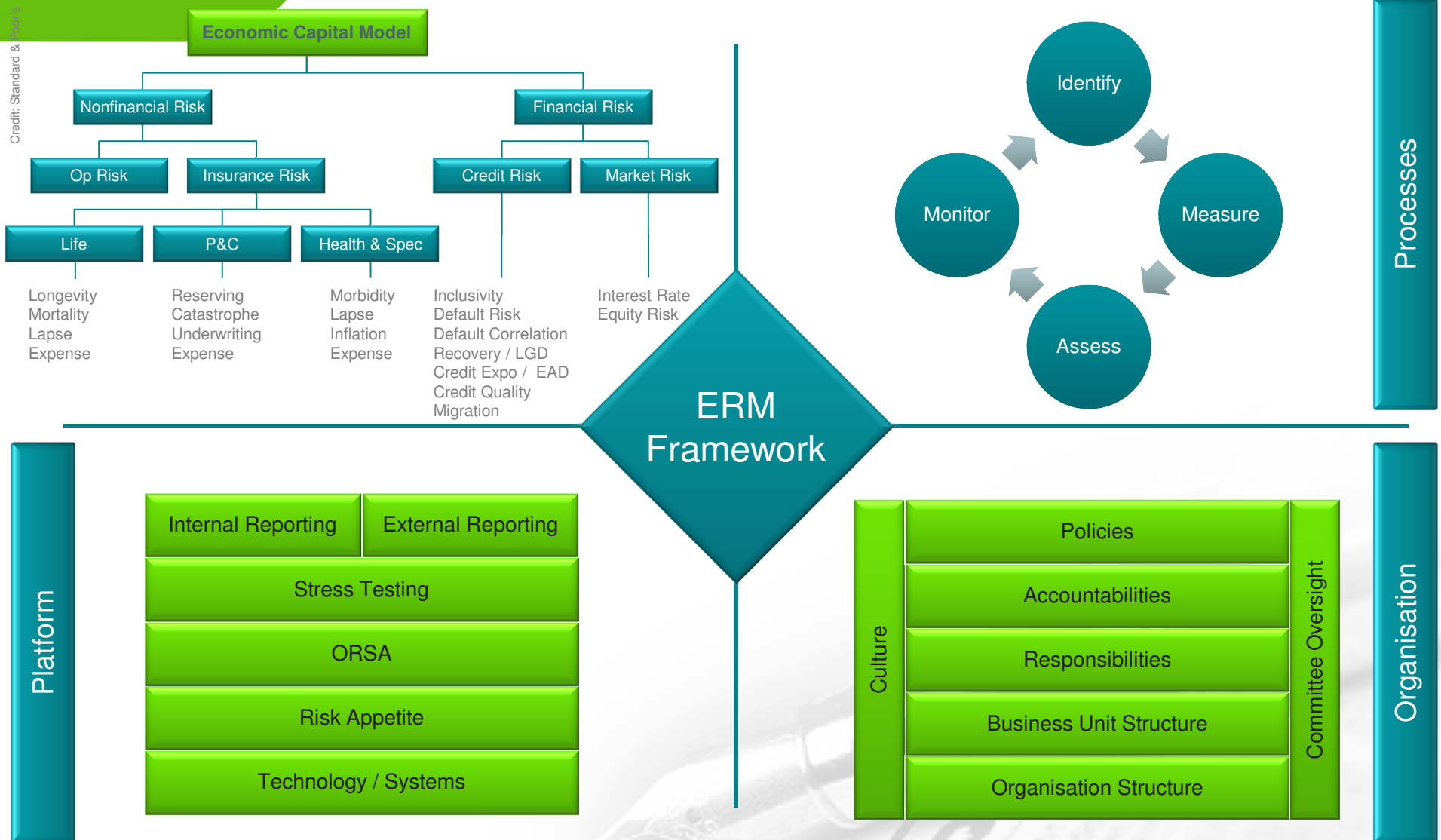
Regulatory & External Pressures

- Regulatory pressure for significant improvement in disciplines around the risk process.
- Demand for increased speed, improved accuracy, expanded reporting
- External agencies are looking at the disciplines around the risk process (automation, robustness).
- Timely and accurate reporting has an impact on competitiveness and attractiveness of the company.

Holistic Approach

- Move towards a more holistic approach to risk management
- Enterprise Risk Management addresses the complete risk management ecosystem
- Focus on the infrastructure to support the wider perspective, with an emphasis on automation, control, integration and industrialization of the risk process.

Components of a Framework



Stakeholders

External

- **Regulators:** protecting the end customers's investments and benefits
- **Rating agencies:** strength in risk management processes and a focus on solvency and capital adequacy
- **Policyholders:** a desire to have a risk-free return and assurance of benefit payments
- **Shareholders:** focus on strong returns with an acceptance of more risk

Internal

Executive Board

Finance

Actuarial

Risk Management

Operations

Audit

Governance Committees

Non-executive Directors

Challenges

Pressure to improve timeliness with increased reliability, and disparate data sources integrated into a complete picture across the organisation

Internal Pressures

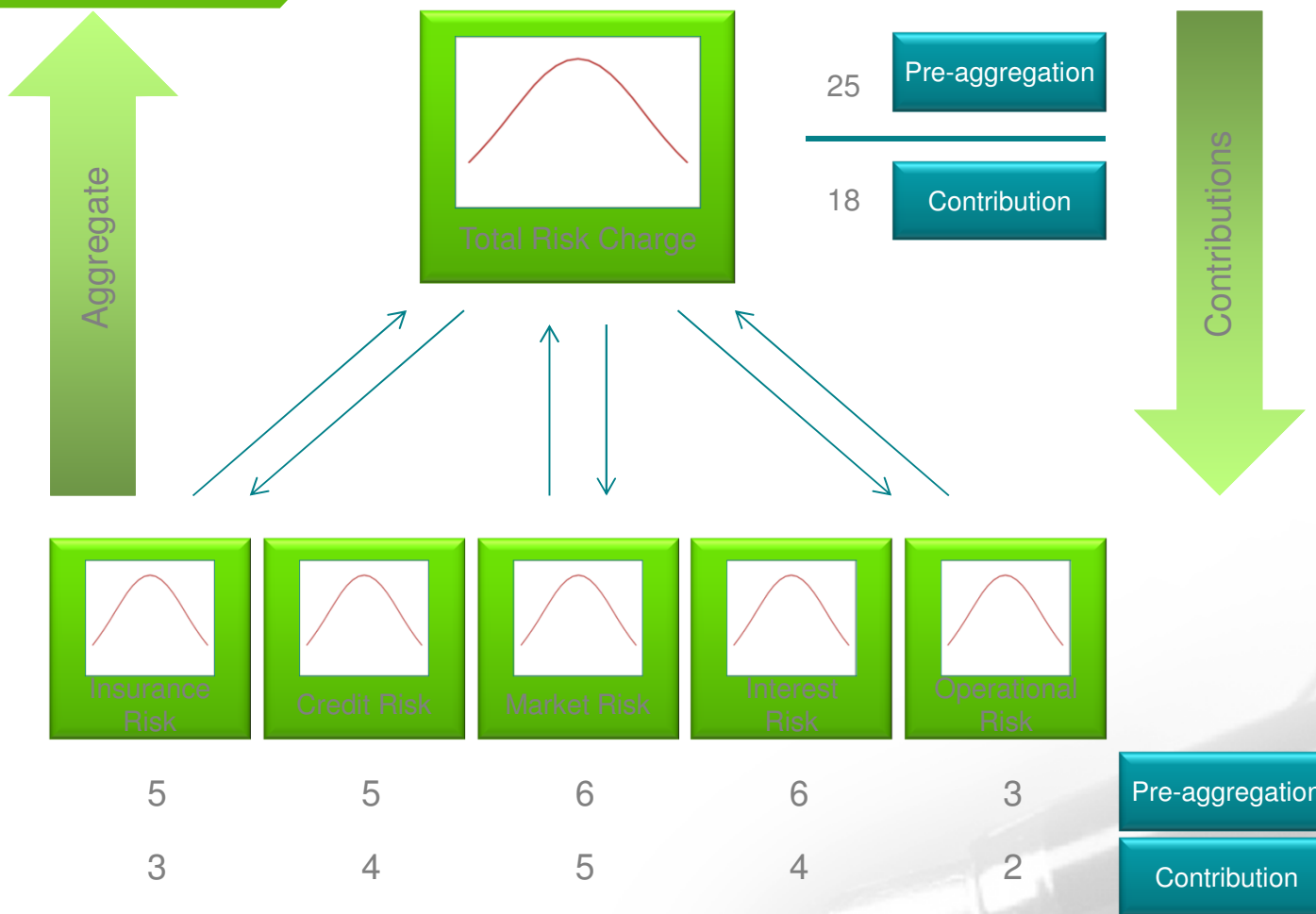
- Reporting deadlines
- Holistic view
- Validation and control of models

Regulatory Trends

- Solvency II
- IFRS
- Risk Based Capital
- others

Pressure on manpower as organisations attempt to implement changes and meet deadlines

Challenges: Risk Aggregation

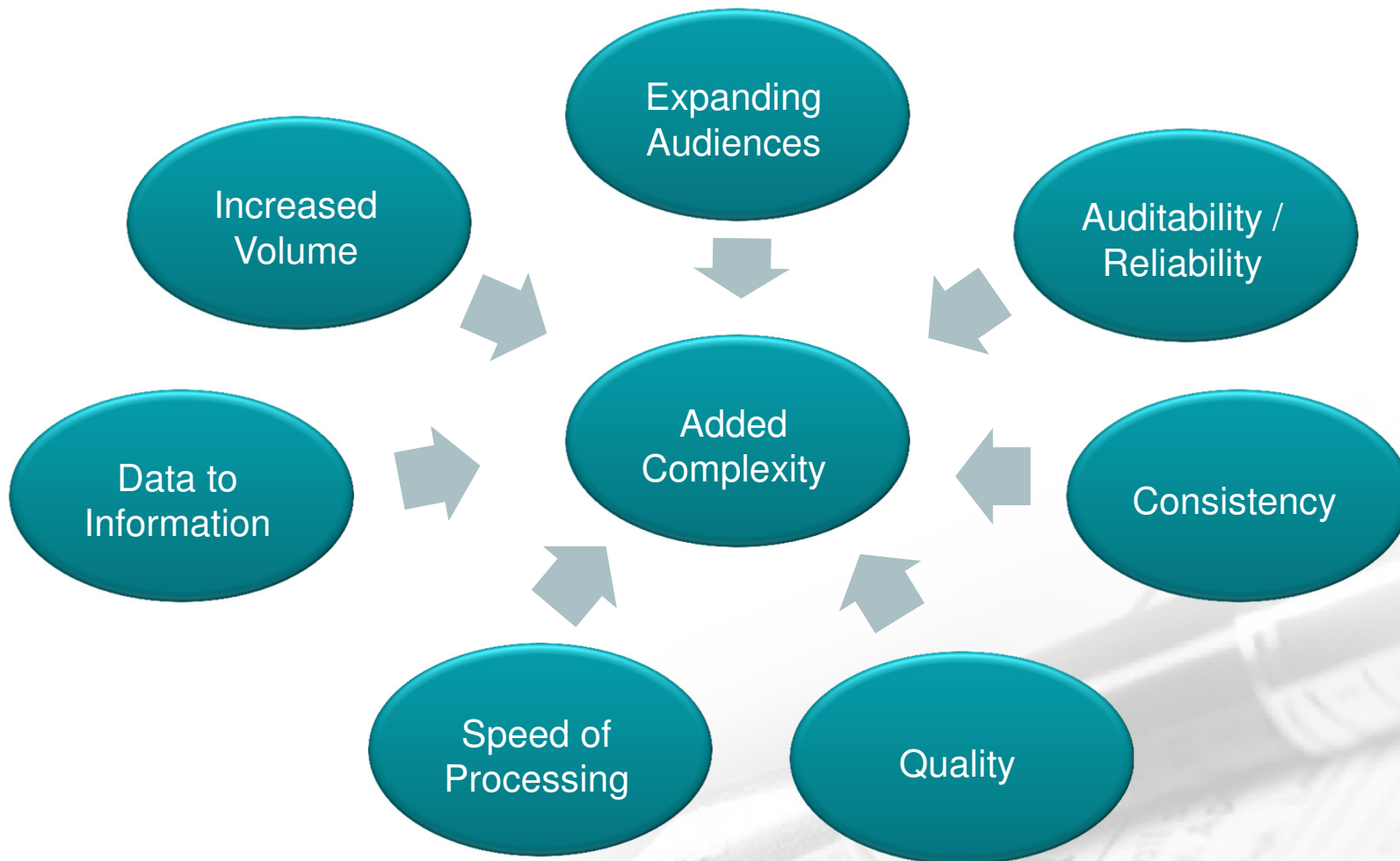


Contributions

The aggregation process must help and inform the organisation by capturing and making accessible the contribution of individual dimensions:

- Business unit
- Sales channel
- Product line
- Geography
- Department
- Other

Challenges: Data



ERM Framework

Systems & Solutions

Reporting

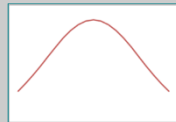
Data Store and Data Marts

Aggregation
& ALM

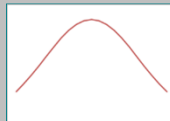
ALS and Stress Testing

Risk Modelling
Platforms

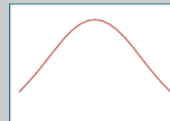
Insurance Risk



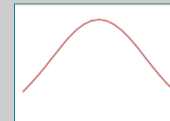
Credit Risk



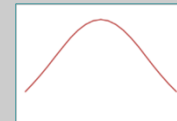
Market Risk



Interest Risk



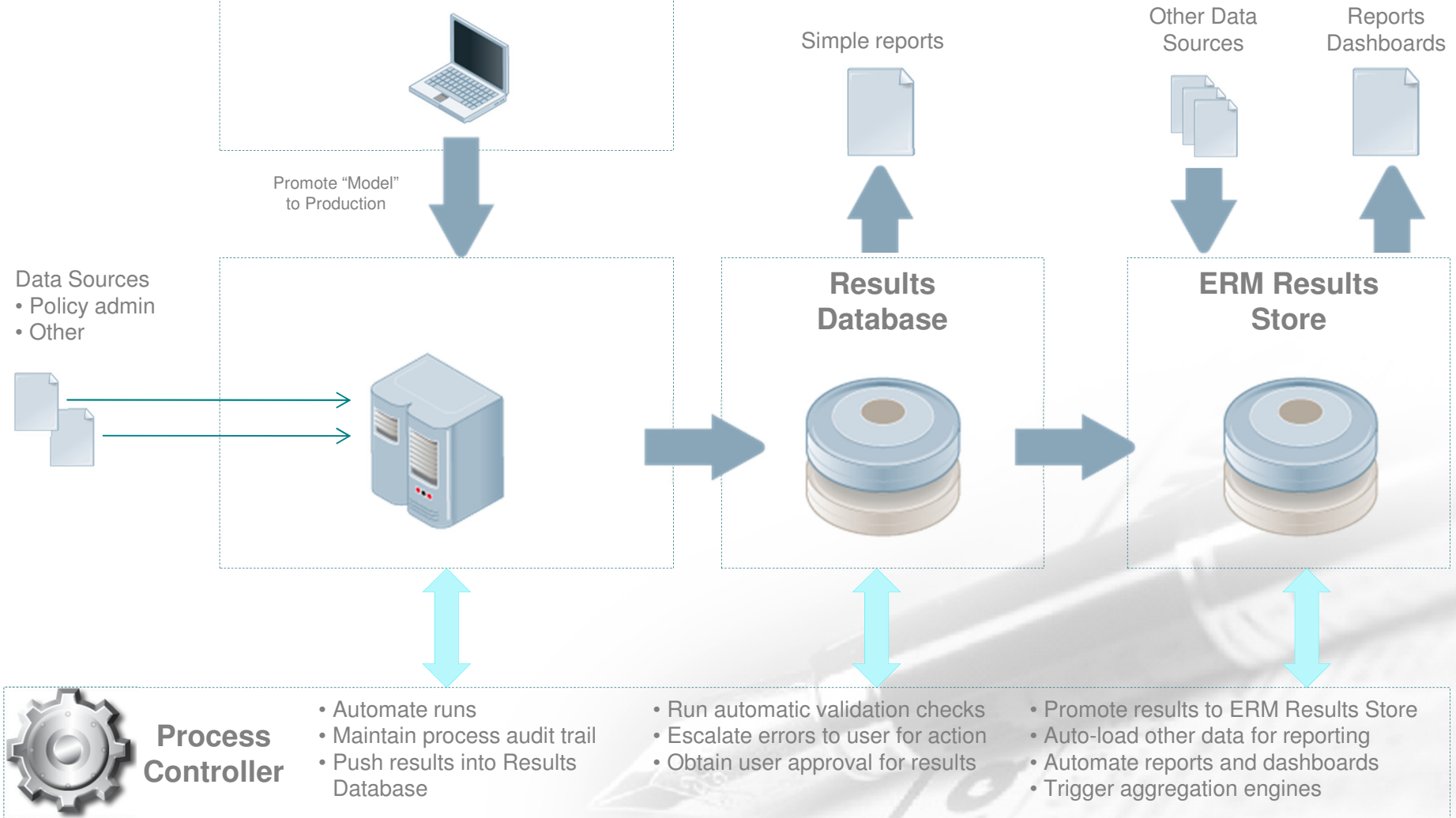
Operational Risk



Process Mgmt

Process Controller

Architectural Framework



Business Benefits

Data Management & Security

- Easy access to data inputs and results data
- Structured and extensible data model
- High volume scalability
- Data lineage supporting full auditability of the data trail
- Secure environment

Governance & Control

- Status of current process, process analytics, history
- Exception handling, human workflow and validation
- End to end automation and business orchestration
- Integration, document and content management, archive and recovery
- Extensible process model development, version control

Transforms Data to Information

- Executive dashboards, actuarial worksheets, spreadsheets
- Regulatory, disclosure and audit reporting
- Delivery of information that is informative, relevant, timely and actionable
- Analytics and business intelligence
- Publishing capabilities, library management and retention of report, output, dashboard and worksheet histories and versions
- Compatibility with most other third-party reporting and BI tools

Reports & Controls

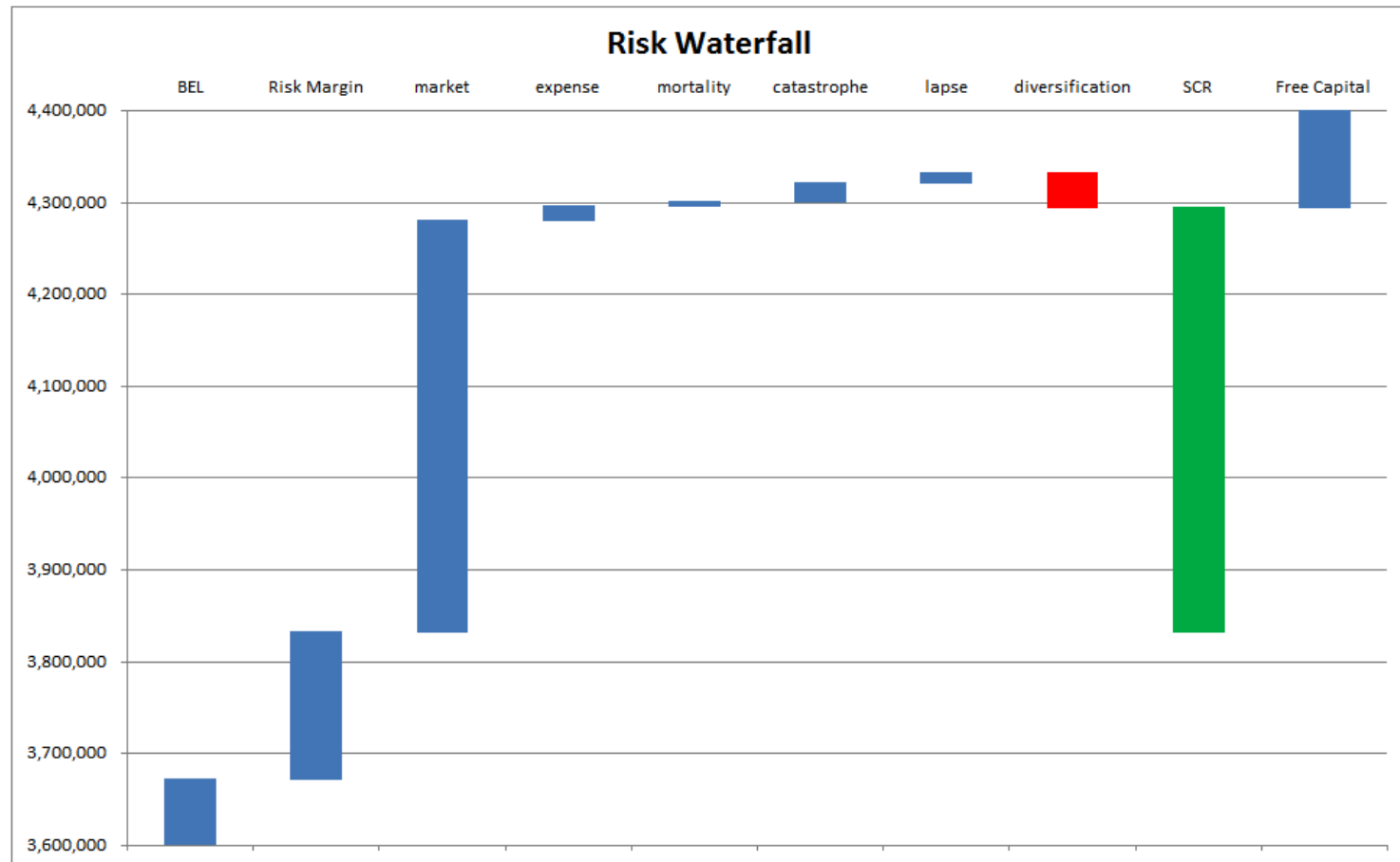


Prophet ERM ▸ Risk Waterfall

?, Gill, Dave ▾

Balance Sheet : [Book and Market Value of Assets](#) | [Risk Waterfall](#) | [SII Balance Sheet](#)

Risk Waterfall (Excel Services)



Done

Trusted sites | Protected Mode: Off

100%

Reports & Controls

Prophet ERM | Projection Gill, Dave

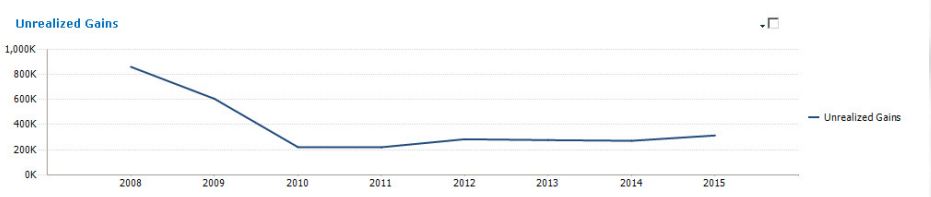
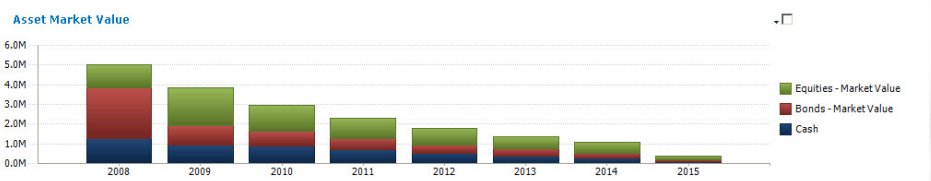
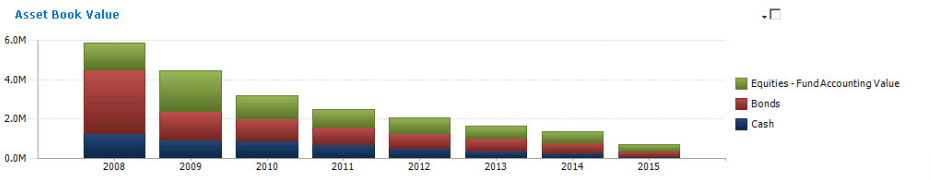
Stresses: Projection
 Job/Run: Lapse Shock (up) Year: 2009, 2010, 2011 Product: European Sample Fund

	2009			2010			2011		
	Base Run	Current Run	Difference	Base Run	Current Run	Difference	Base Run	Current Run	Difference
Total Premium Income	24,340	24,351	-3	23,074	23,083	-9	21,861	21,875	-14
Cash - Income	40,180	40,180	0	31,314	31,322	-8	38,240	38,264	-16
Box - Income	-2,482	-2,469	-13	-2,150	-2,139	-11	-2,134	-2,124	-11
Equities - Return (FAV)	26,185	26,185	0	36,000	36,009	-9	22,079	22,092	-13
Equities - Actual Realized Gain	0	0	0	0	0	0	0	0	
Equities - Actual Realized Loss	0	0	0	164,468	164,523	-55	127,932	127,986	-54
Bonds - Income	200,685	200,685	0	96,696	96,707	-11	69,966	69,926	41
Bonds - Actual Realized Gain	0	0	0	19,081	19,138	-58	13,036	13,149	-112
Death Benefit Outgo	4,561	4,561	-1	3,971	3,972	-2	3,464	3,466	-2
Surrender Benefit Outgo	201,792	200,783	1,009	155,509	154,773	737	120,152	119,614	537
Maturity Benefit Outgo	0	0	0	0	0	0	0	0	
Total Gross Expenses	12,285	12,287	-2	9,446	9,450	-4	7,303	7,308	-5
Increase in Mathematical Reserves	-1,163,532	-1,162,517	-1,014	-878,349	-877,797	-552	-670,912	-670,660	-251
Fund Tax	370,145	370,148	-2	225,291	225,360	-69	172,535	172,640	-105
Profit Net of Reinsurance	863,673	863,678	-6	525,679	525,840	-161	402,582	402,828	-246

Done Trusted sites | Protected Mode: Off 100%

Prophet ERM | Book and Market Value of Assets Gill, Dave

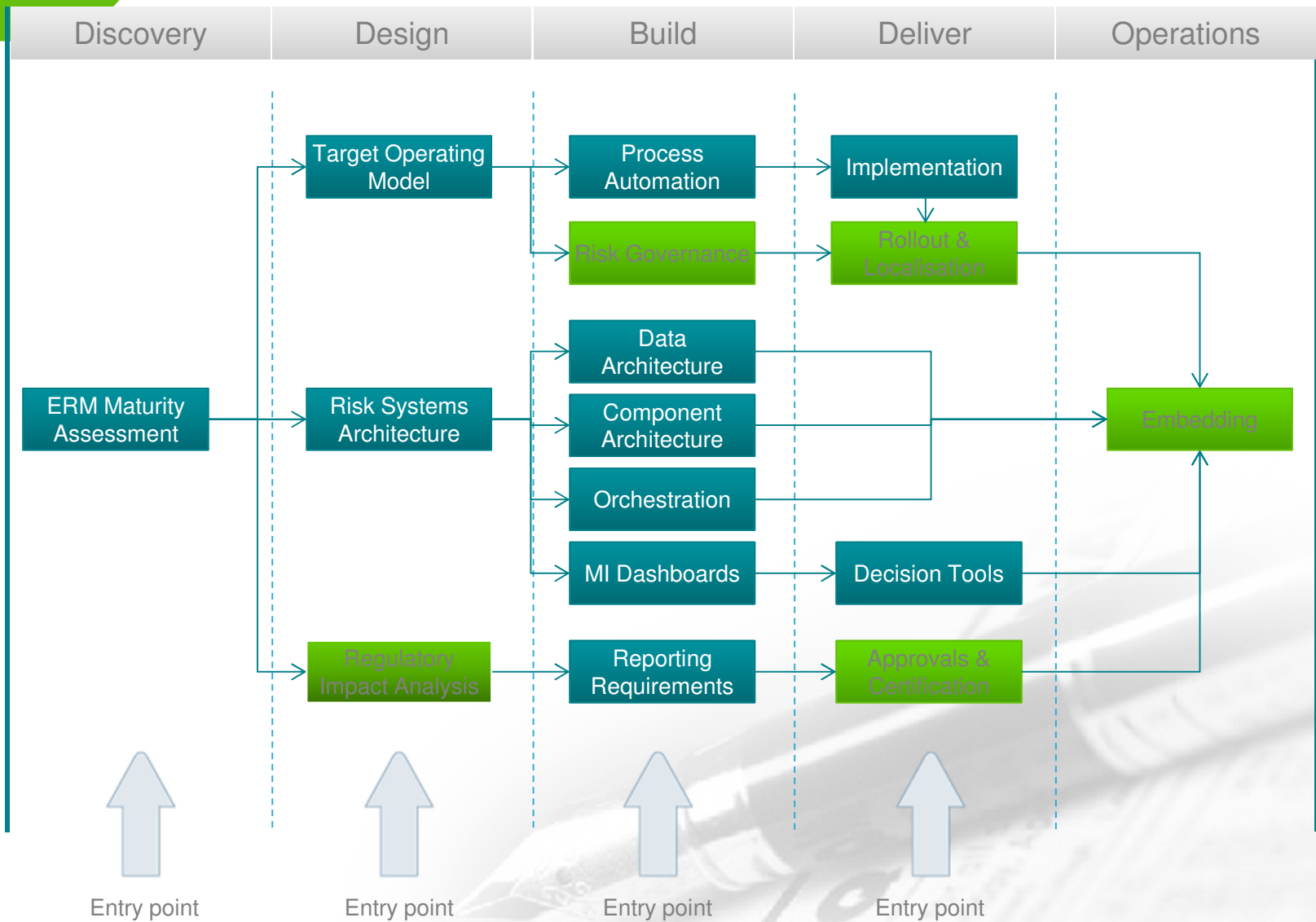
Balance Sheet: Book and Market Value of Assets | Risk Waterfall | SII Balance Sheet
 Run Number: Base Run Year: 2008, 2009, 2010, 2011, 2012, 2013, 2014, ...



Done Trusted sites | Protected Mode: Off 100%

ERM Implementation Roadmap

Roadmap



Conclusion



Conclusion

- Can Automation Help To Reduce Risk?
 - In many ways:
 - Integration
 - Standardization
 - Controls
 - Transparency
 - Consistency
 - Efficiency
 - Elimination of human errors
 - Supports Process and Procedures
 - Supports Change Management Initiatives

Thank you for your attention!

Appendices



About SunGard iWorks

About SunGard iWorks



SunGard iWorks in Asia



iWorks Solutions in Asia

Australia	Philippines
China	Singapore
Hong Kong	South Korea
India	Sri Lanka
Indonesia	Taiwan
Japan	Thailand
Malaysia	Vietnam
New Zealand	

Over 220+ Customers in Asia



iWorks in the Insurance Space



Key Solutions

- **iWorks Risk Management Solutions**
 - **iWorks Actuarial Risk Solution**
 - **iWorks Operational Risk Solutions**
 - **iWorks Market Risk Solutions**
 - **iWorks Asset Management Solutions**
- **iWorks Policy Administration Solutions**
- **iWorks Health Insurance Solutions**
- **iWorks Distribution Solutions**
- **iWorks Services**





iWorks Risk Management Solutions

Key Solutions

- **iWorks Enterprise Risk Management Framework (ERM)**
 - **Core Technology**
 - iWorks Prophet Solution
 - **Modules**
 - iWorks Prophet Results Database (PRD)
 - iWorks ERM Data Control Centre (EDCC)
 - iWorks ERM Data Warehouse (ERDW)
 - **Services**
 - iWorks Data Management
 - iWorks Business Process Management
 - iWorks Information Management

iWorks - Contribution to the Insurance Industry is being recognized

2011 Life & Pensions Risk Awards – Best Actuarial Modeling Solution

2010 Chartis RiskTech100 – Winner of Insurance Vertical Category

**Life&
PensionRisk**

 **Chartis**
RiskTech100™
2010 CATEGORY WINNER: INSURANCE

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