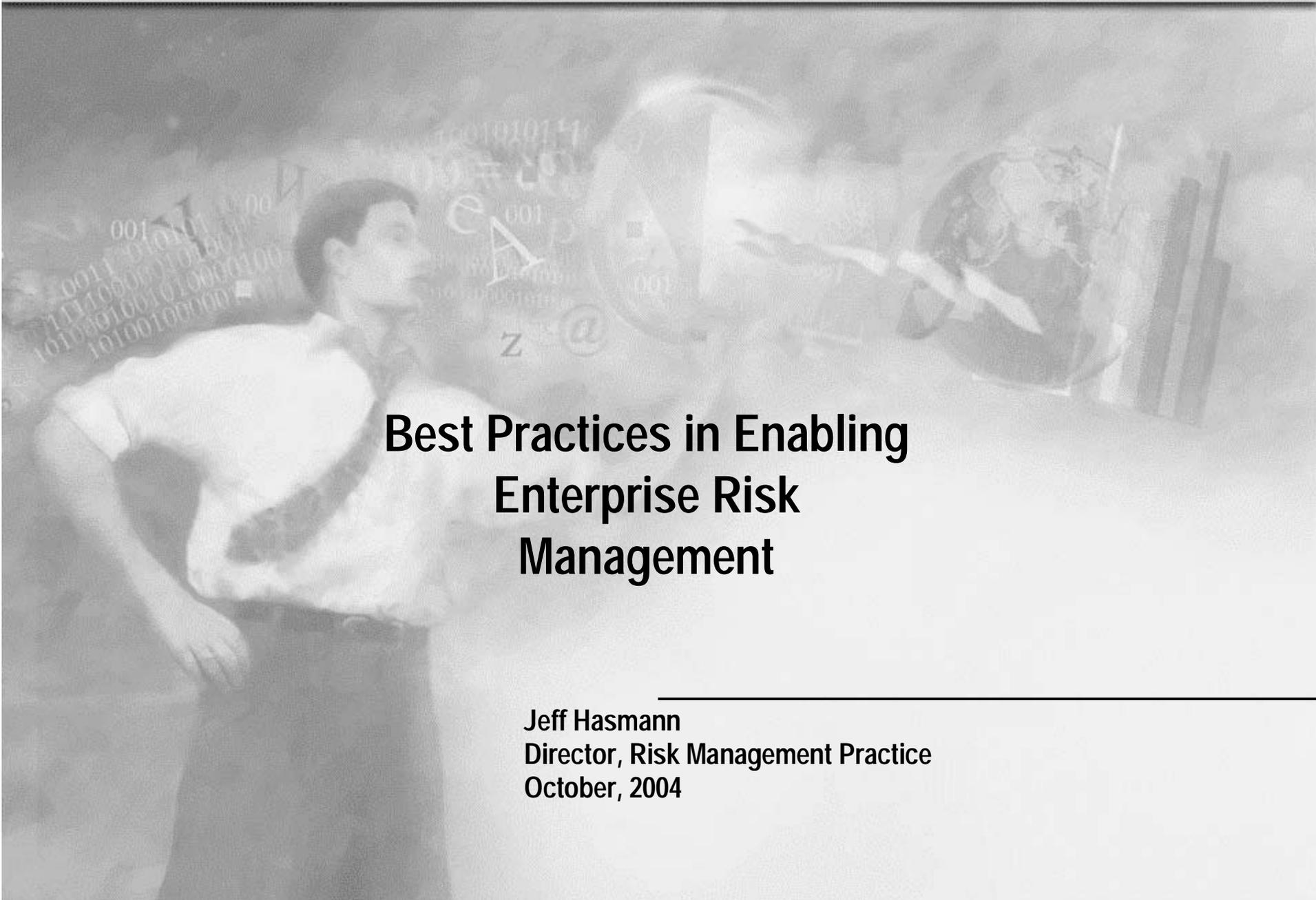




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Best Practices in Enabling Enterprise Risk Management

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October, 2004

Overview

- What's driving interest in ERM
- Concept of an ERM infrastructure
- Barriers to effective ERM
- Components of a 'best practices' ERM infrastructure
- Interesting ERM case studies throughout

Scope: What is ERM and what is driving it?

- Minimum Capital Requirements and Liquidity Covenants
- Supervisory Review of Internal Controls & Capital Adequacy
- Public Disclosure of Risk Management by Companies
- Validation of accuracy and integrity of financial management
- CEOs and CFOs must personally certify that their companies' statements are complete and accurate

RISK Management

- Market
- Credit
- Operational

Who Cares?



CIO's Care:

- **CIOs are faced with both sides of the business;** needs for growth and expansion and cost justification for each IT project.
- **Institutions are spending Millions each year on IT** but feel they have reached the limits that enable them to contain costs yet enable large-scale acquisitions.



CFOs Care:

- **In the post Sarbanes-Oxley environment** where CFOs are asked to sign off on financial statements, the quality of data and the systems that produce that data are being scrutinized now more than ever before.
- **Growth can only come with efficient architectures** and synergistic investments in technology.



CRO's Care:

- **Risk compliance in financial institutions** has become more complicated by a number of regulations such as Basel II accord and USA Patriot act.
- **A siloed approach to compliance is no longer valid,** significant savings can be found in the pooling of initiatives around risk.



CMOs Care:

- **In an environment where CMOs are being asked to grow revenues** with less manpower than ever before, new regulations are getting in their way of being effective.
- **Privacy policies, and opt out policies are destroying pre existing databases** and making it hard to cross sell and up sell existing customers.
- **Quality data can only be found by drawing data from a centralized data warehouse** that contain every interaction with the customer as well as when and where it is appropriate to contact them.

Themes in developing a robust ERM infrastructure

- Alignment of people, processes, and strategic vision
- Integrated technology enables effective ERM
- Mandatory alignment of businesses with corporate vision
- Cooperation across business silos
- Rewards for risk-adjusted performance

Alignment Convergence

- Strategy
- People
- Processes

Technology
as enabler

Some Barriers to Successful ERM

Organizational Silos

Inadequate Data Management Strategy

Corporate Culture

Internal politics

- Fragmented data

- Overhyped benefits of ERP

Tunnel vision

- Incomplete data

- ERM is 'catastrophe avoidance'

Lack of synergies

- No common data models

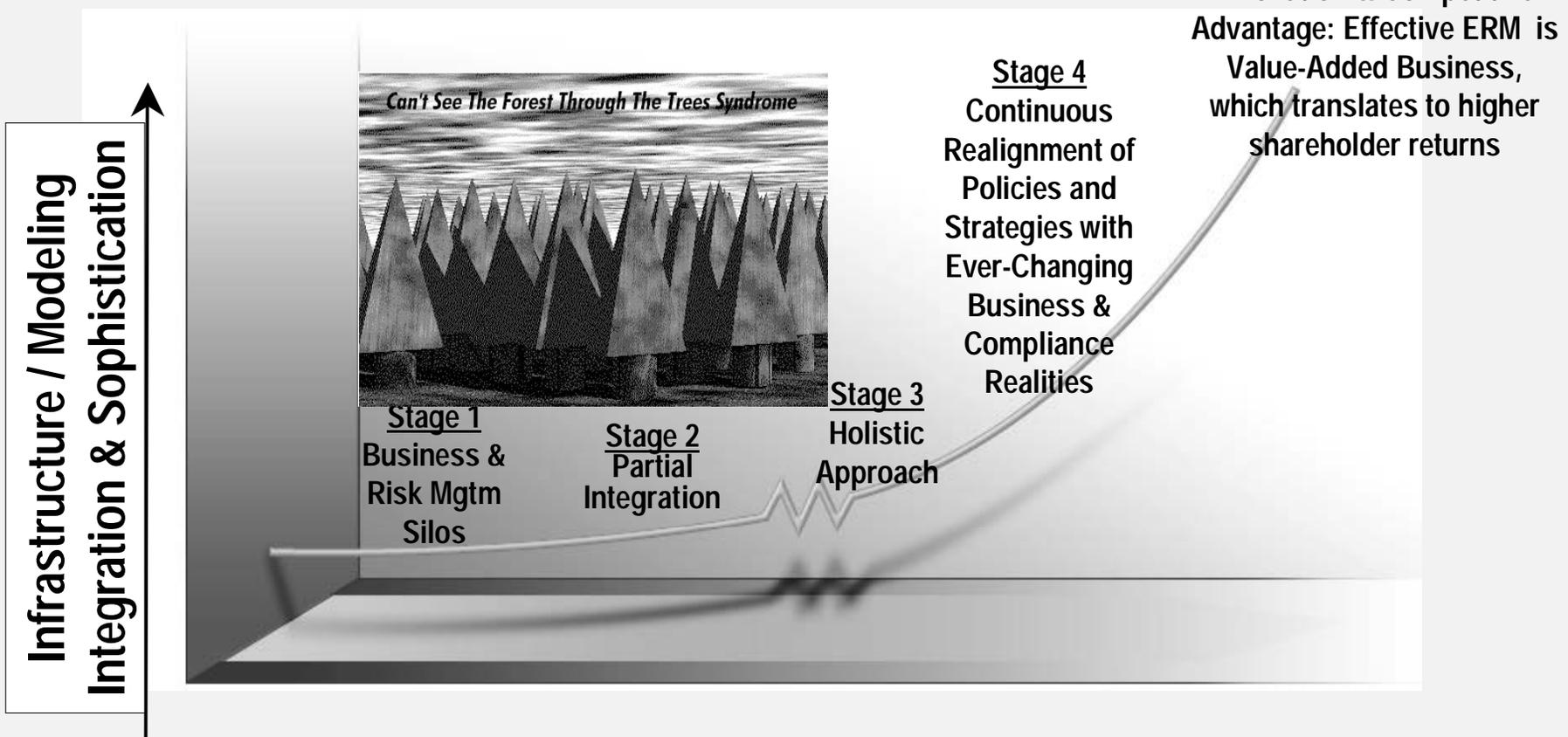
- Risk management is overly complex

Conflicting strategies

- Manual aggregation of data

- Executive compensation structure not geared towards ERM

Evolution of the Enterprise Risk Management Infrastructure



Trust [Enterprise Risk Reduction] → **Increasing**

Efficiency → **Increasing**

Return → **Increasing**

Our Objective: Propose a Strategy to Enable ERM

Enterprise Risk Strategy and Corporate Governance

Executive sponsorship Corporate governance Top-down definition of risk appetite
 Strategic allocation of capital Policies and procedures Integration across silos



Business Processes

- Increasing complexity of business model has increased risk of non-compliance to policies and procedures. This has created a need for additional internal controls or even a completely new business model.
- Manual work around and re-keying of data increase potential for human error or fraudulent behaviour
- Increasing potential for failure to comply with regulatory requirements due to lack of sufficient assistance from the commonly used application systems
- Profiles of new products are increasingly changing the fundamental risk profiles of customers and need additional processes and controls
- Absence of key risk and key performance indicators

People and Organization

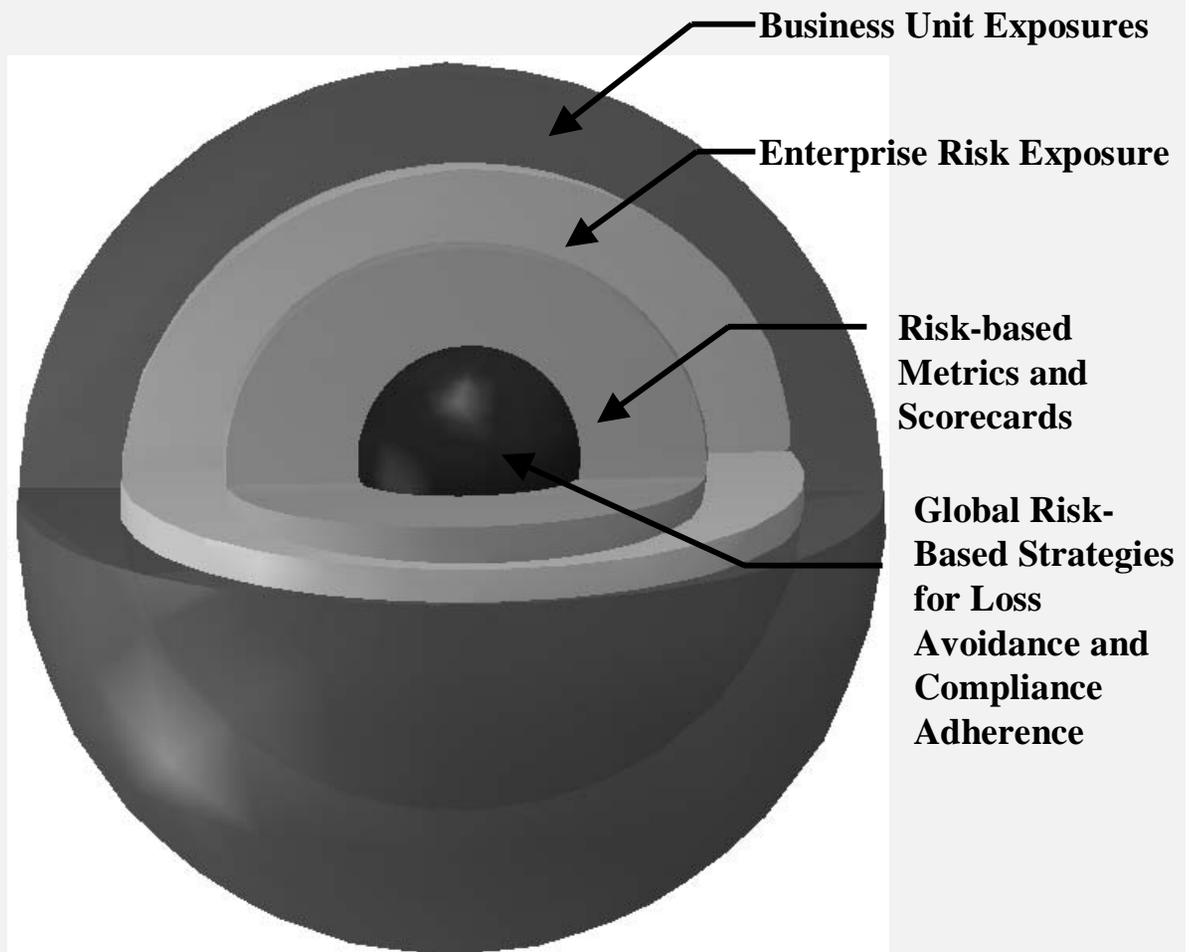
- Increasing need for higher skilled professionals
- Not enough people
- Increasing turnover and declining tenure trends add to costs and risks
- Human errors can lead to increased chances for poor delivery of service, damaging customer relationships & increasing risk
- Potential for compensation not sufficiently matched with skill set and market

Technology

- **Fragmented and disparate technology platforms need to be better integrated**
- Relatively low investments in technology planning & procurement have weakened the ability to scale up operations, monitor and control risks
- Weaknesses in existing systematic / detective controls to manage operational risks
- Technology functionality delivered is less than optimal and there are many more opportunities for automation
- A certain amount of instability in the existing technology platforms leads to frustrations and lost productivity
- **Deficiency in the amount of trust placed in existing systems and applications.**
- Significant opportunity exists to implement key early warning systems and reduce risk while improving decision-making
- **Weaknesses in standardized reporting of management information**
- **Inconsistent risk measurement models and tools**
- Limited early warning systems
- Limit setting tools
- Loss classification frameworks
- RAROC and VaR models

An Enterprise Risk Infrastructure is composed of several layers

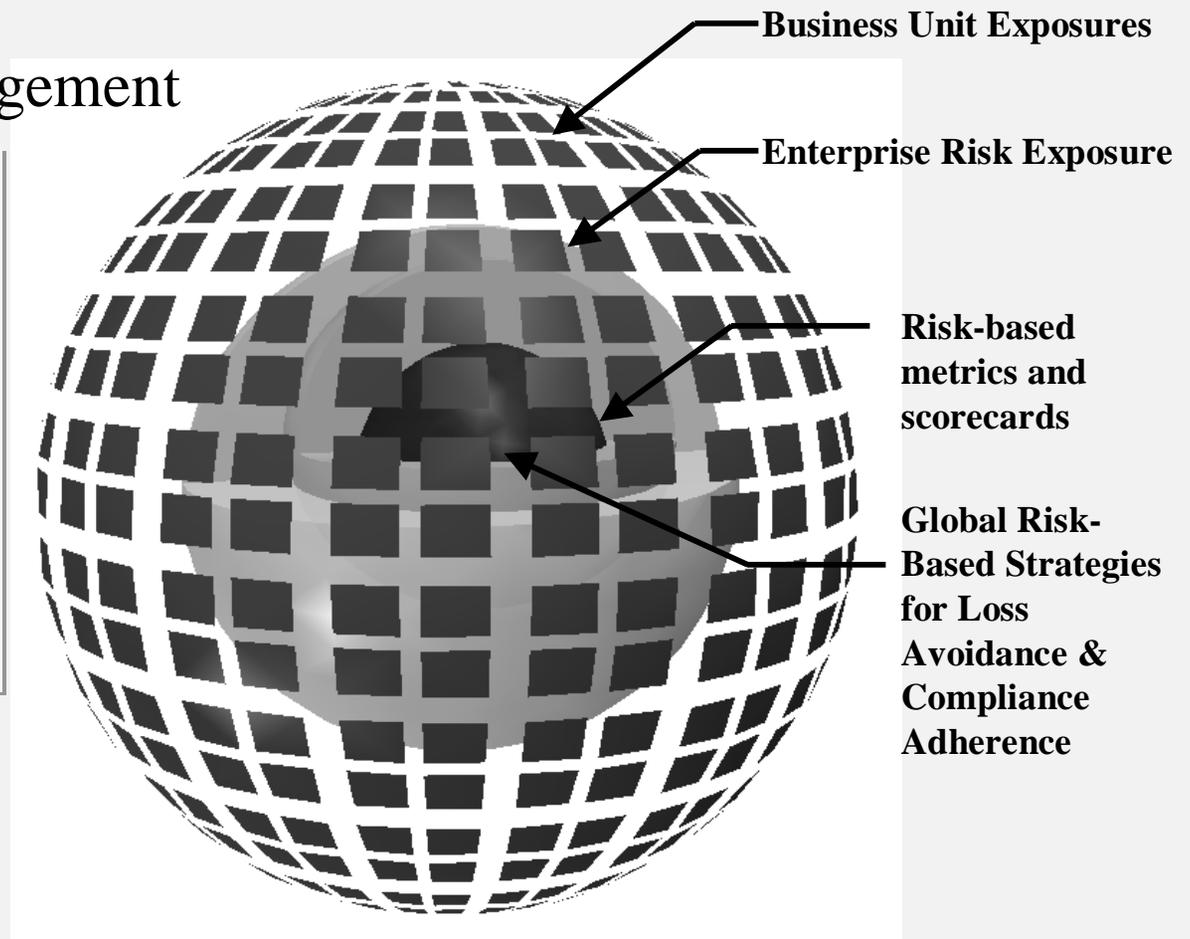
A enterprise risk infrastructure gives an organization the ability to examine all of the layers within it. The result is a core that strengthens internal controls and efficiently and reliably manages risk exposures



Measuring business unit risk is the outer most layer

Business Unit Risk Management

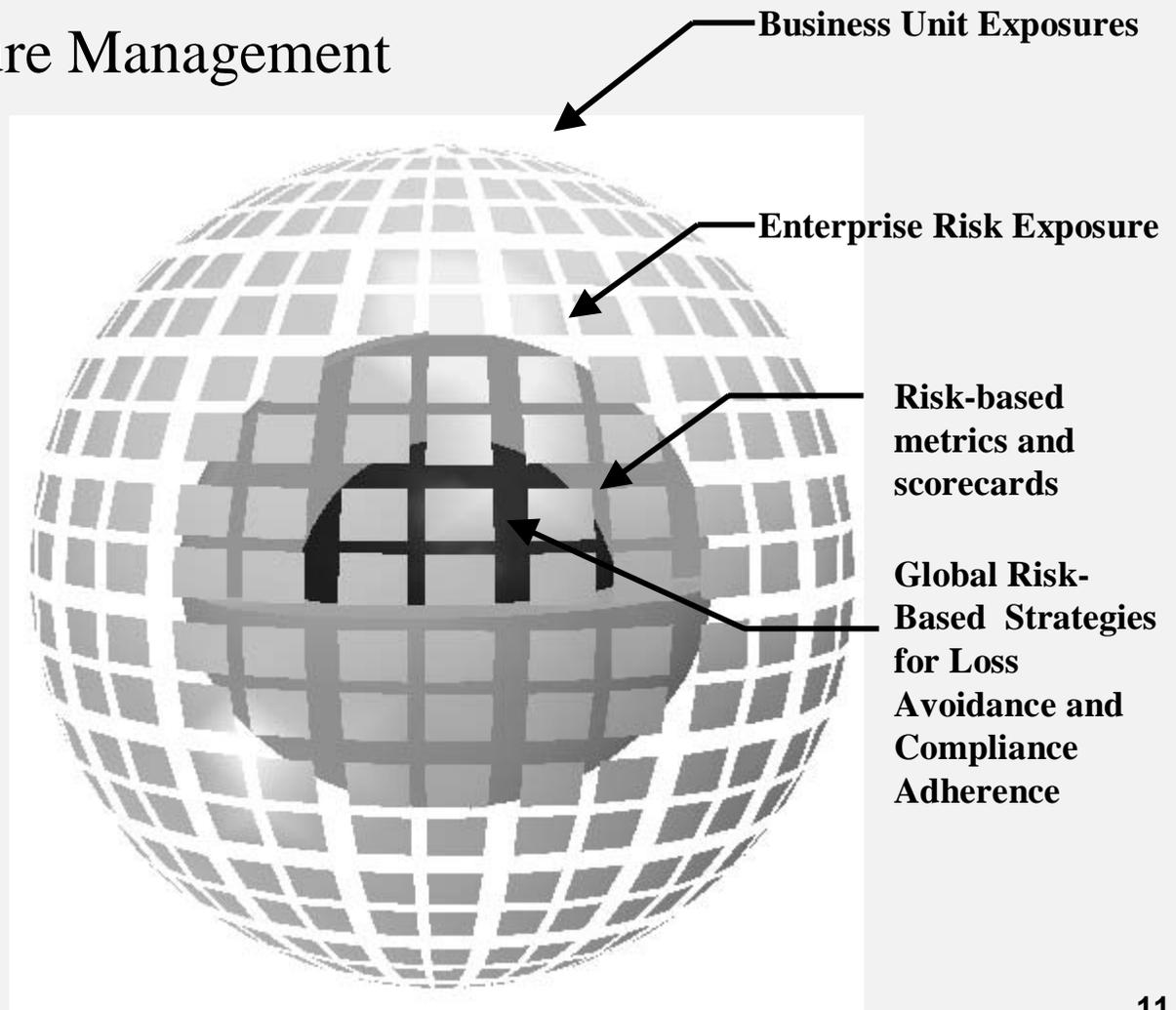
- Avoid unexpected losses
- Stay out of the news
- Improve bottom line
- Reduce Fines
- Increase Customer Satisfaction
- Increase Employee Utilization



Measuring enterprise risk is the next layer in the journey

Enterprise Risk Exposure Management

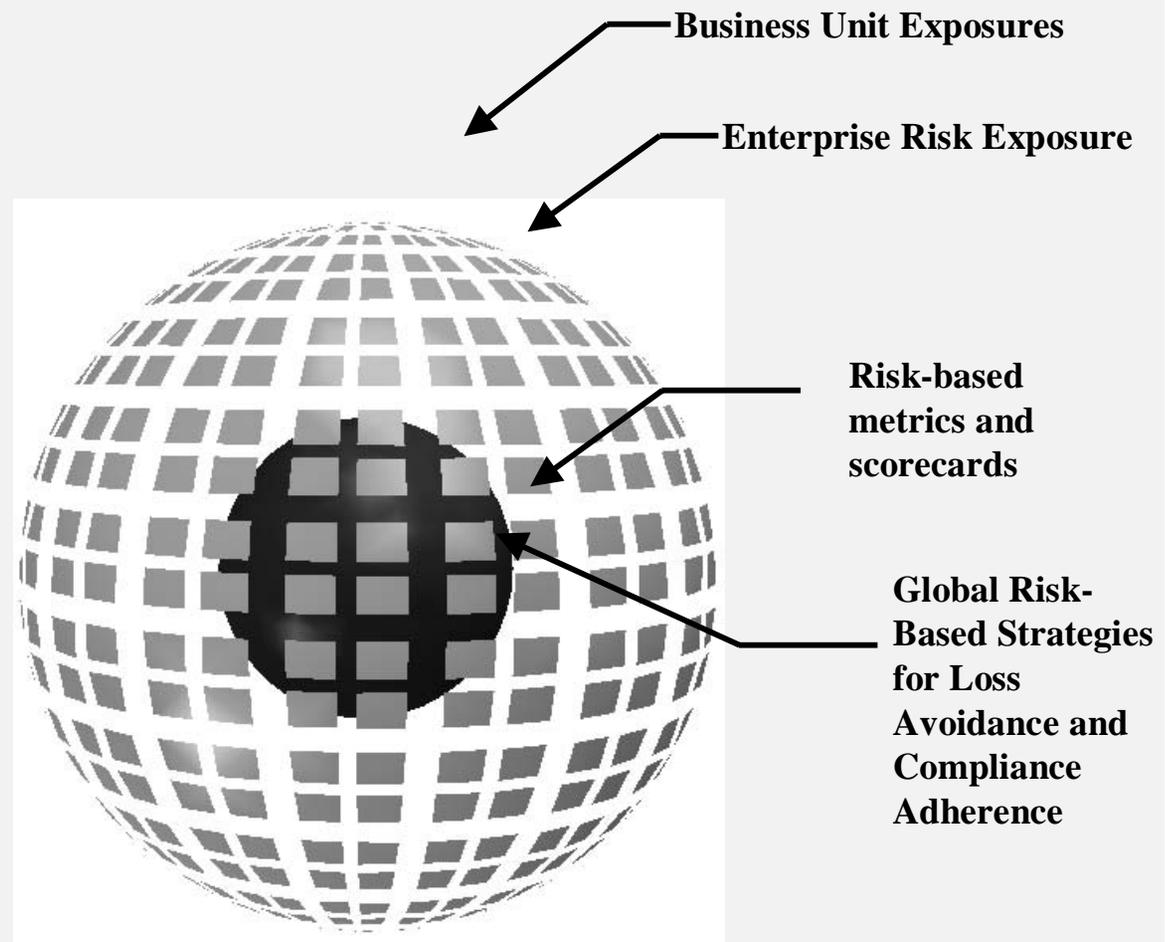
- Roll together multiple BUs
- Risk exposure aggregation
- Information sharing
- Leverage on more comprehensive views
- Ability to report to the BoD and Auditors with greater clarity and depth on compliance matters, risk exposures, and effectiveness of controls



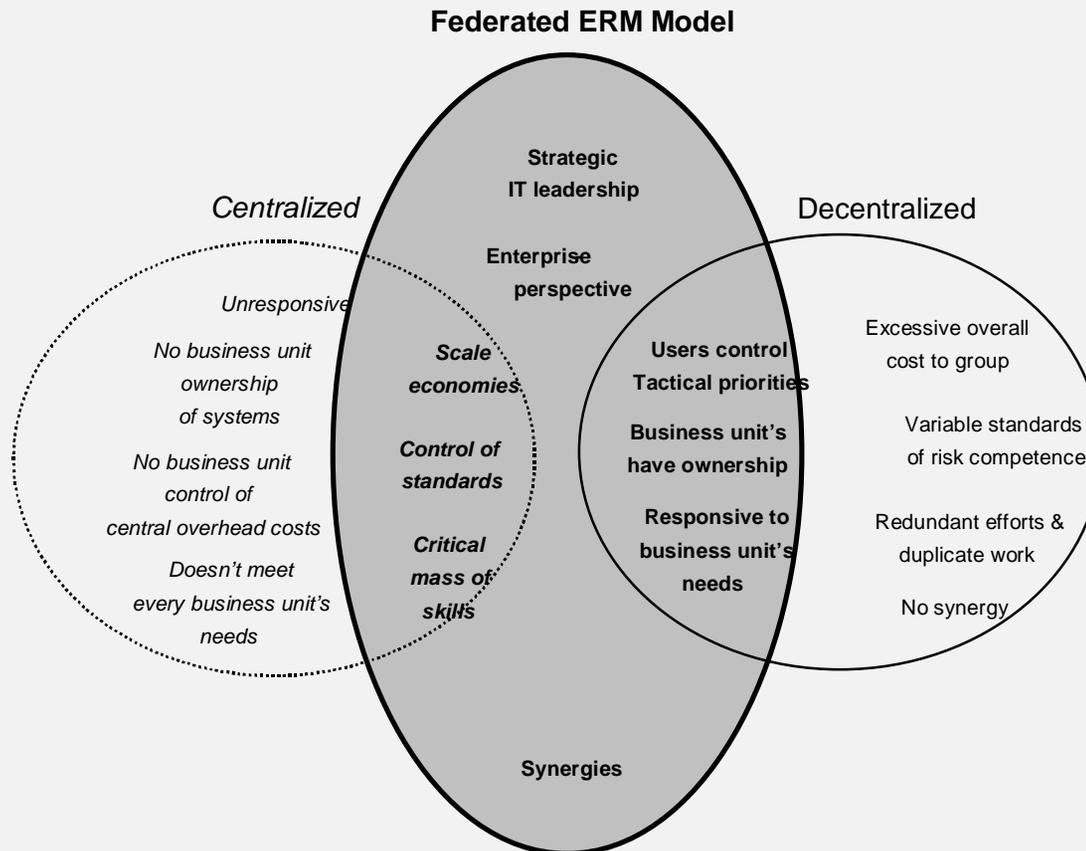
Risk-based metrics deliver a sustainable change in everyday business behavior

Risk-based metrics

- Optimal risk/return profile
 - Balances risk and rewards
- Improve return/risk ratio on capital or assets
 - Facilitates risk-based performance measurement and assessment
 - Ability to fully document and effectively disclose risk-based performance



ERM must be backed by the right governance models to be effective



Characteristics of ERM options



Centralized



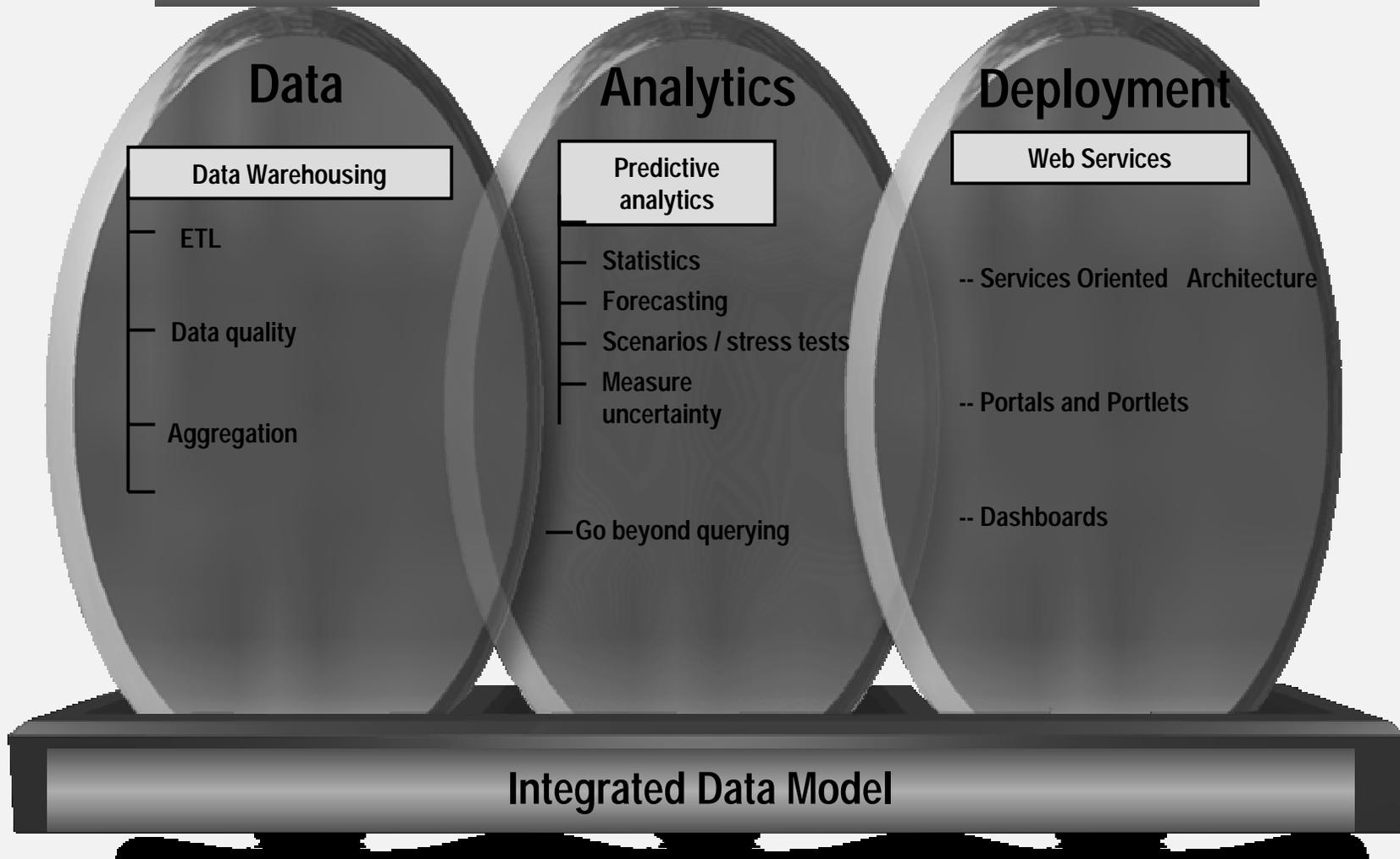
Federated



Decentralized

ERM Technology Infrastructure

ERM Infrastructure



Conclusion

A 'best practices' ERM infrastructure:

- **Embodies a philosophy**
 - **Alignment**
 - **Convergence**
- **Contains key components**
 - **Well-defined business processes**
 - **Robust technology infrastructure**
- **Allows appropriate flexibility**
 - **BUs can run their business effectively**
 - **Federated model**
- **Becomes integral to the corporate culture**
 - **ERM is everyone's responsibility**
 - **Cultural change begins at the top**



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