



IBM SOA Summit



* Informations valorisées et SOA,
le couple gagnant.



IBM SOA*
Summit



SOA in the Industrial Sector / TE22

Jean Perguet

IBM Software Group

Automotive & Aerospace Solution Manager



- **Introduction**

- Main industrial challenges
- How BPM and SOA support these initiatives

- **Examples**

- Generic difficulties relevant to the industrial sector
- SOA in the Product Life Cycle Management
- SOA in the Global Supply Chain
- SOA in the multi-channel management

- **Conclusion**





Customer Acquisition & Retention: Fickle customers/consumers erode brand equity and hasten commoditization



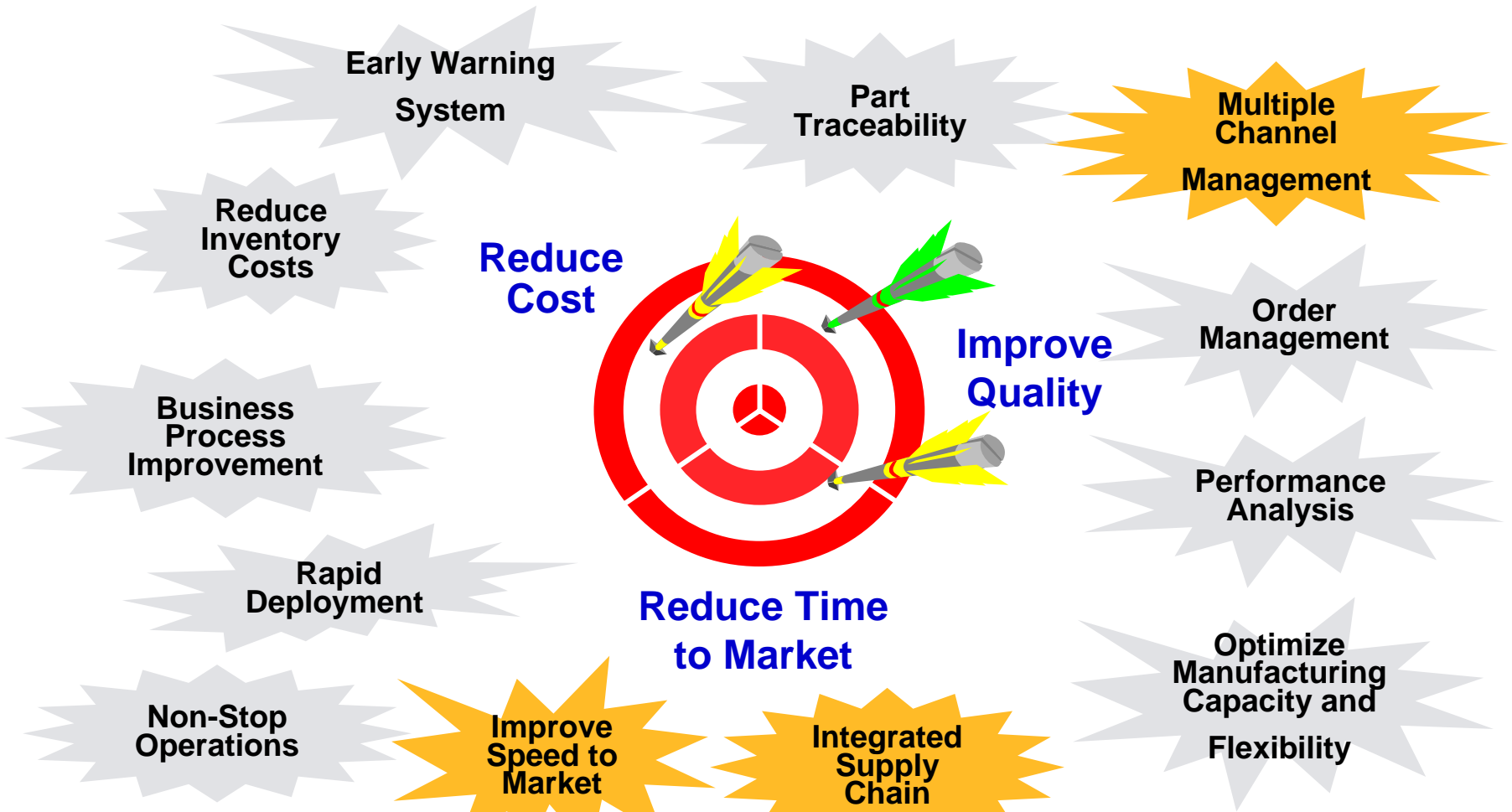
Extended Enterprise Complexity: Increases in global partnerships/joint ventures/M&As/outourcing expose integration shortfalls



Innovation Challenges: Shrinking product cycles require continuous product development process improvement

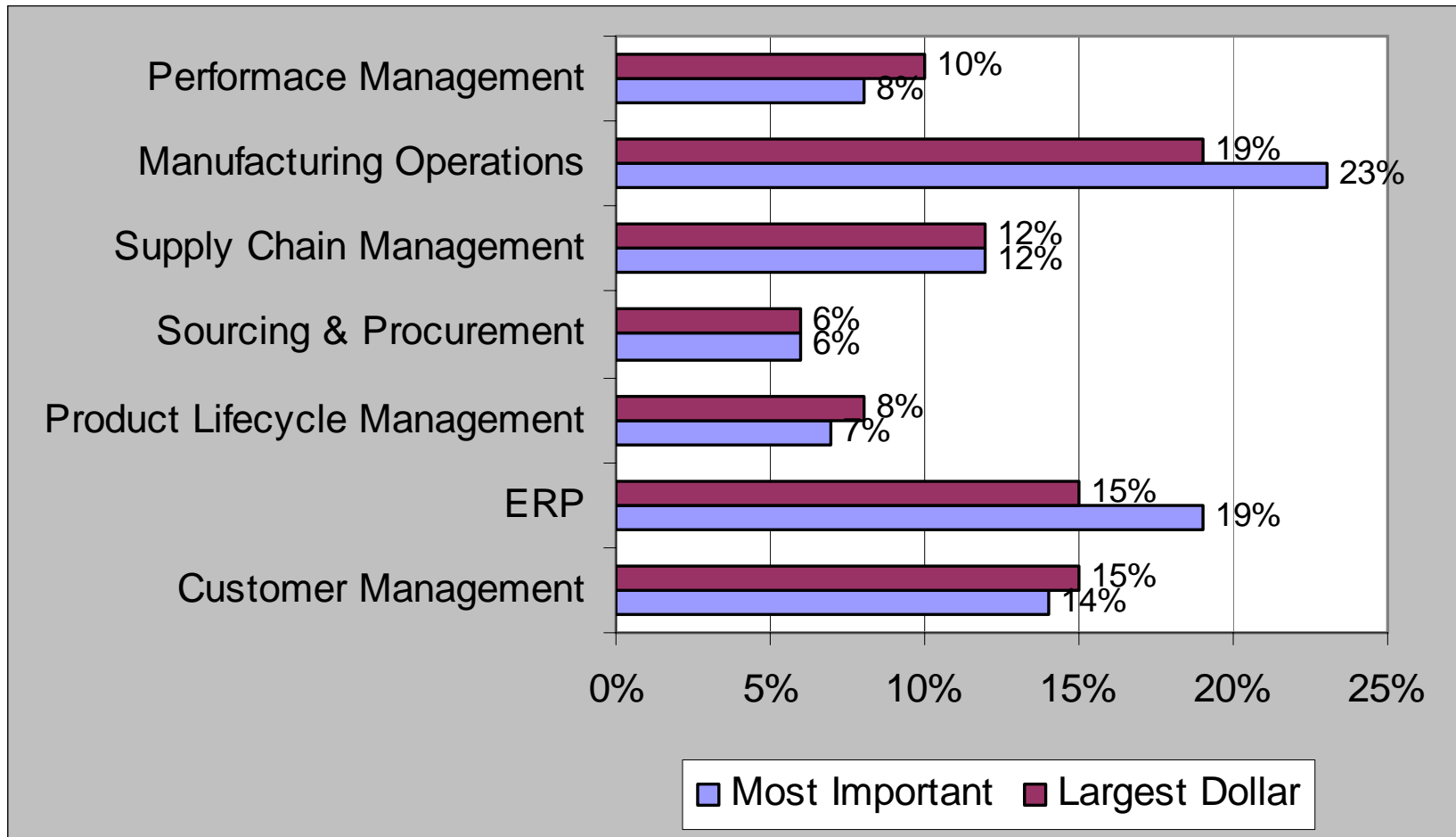


What keeps customers awake at night????



Turning data into actionable information across the enterprise is a must

Which is not totally aligned with the current IT Spending. Mix could change.



Source: AMR 2006, Application spending survey

Business Processes

Customer Relationship Management

Enterprise Resource Management

Product Lifecycle Management

Procurement

Value Chain Management

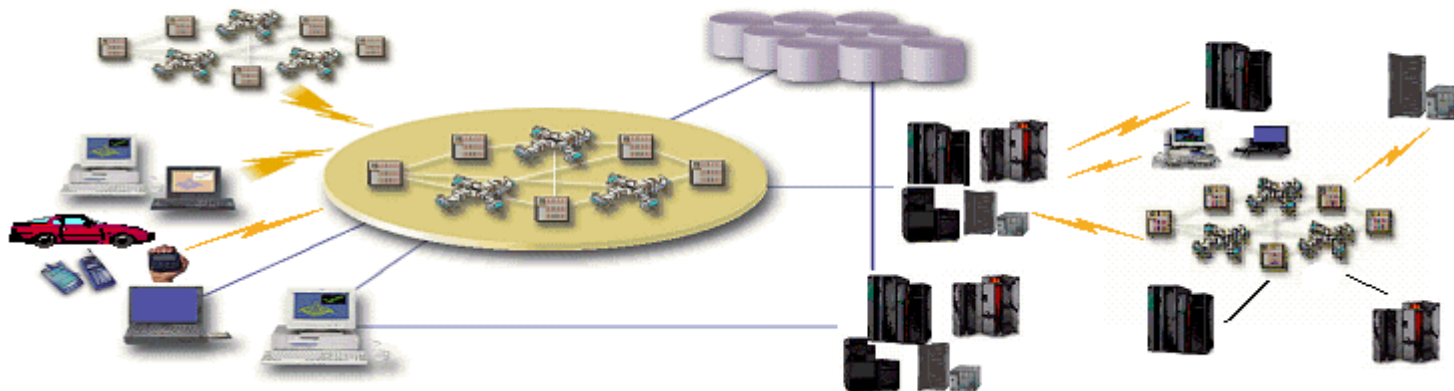
Bridging the gap between business transformation and IT

Information Technology

Customer Connections

Internal Systems

Supplier Networks



Taking BPM and SOA as an opportunity to break the ASW silos and give flexibility

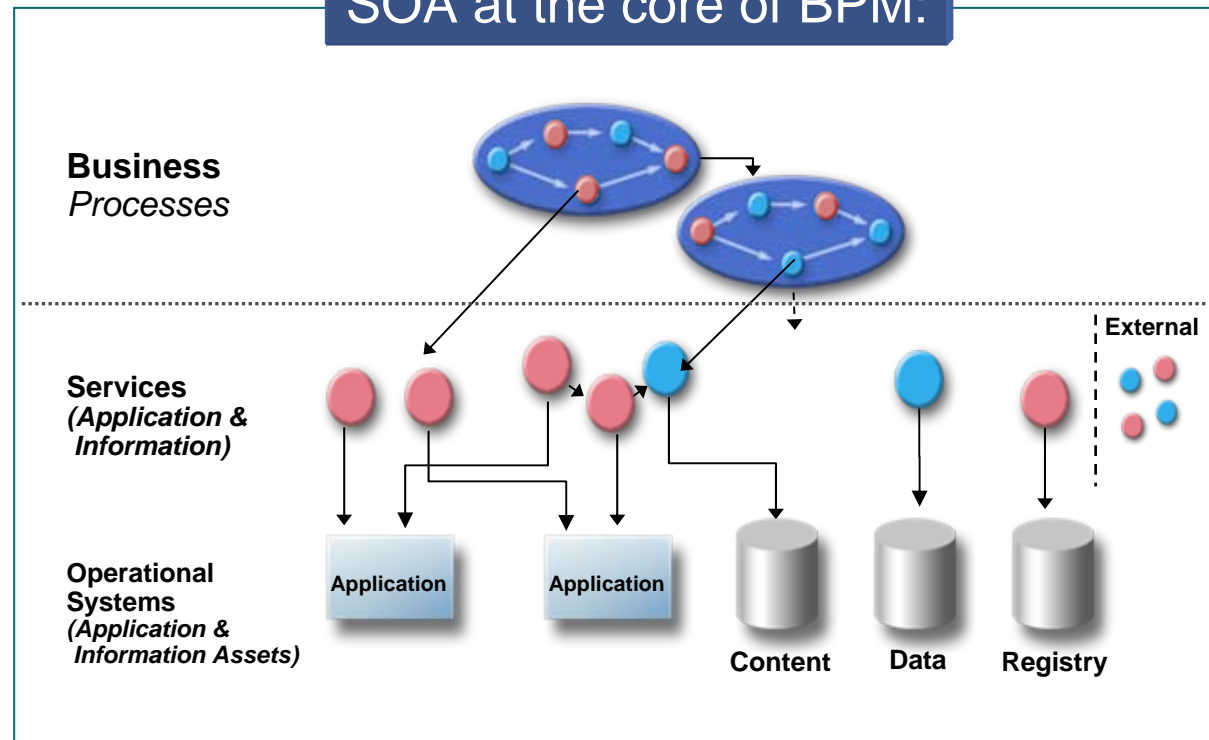


Services are the “building blocks” for agile business processes improvement


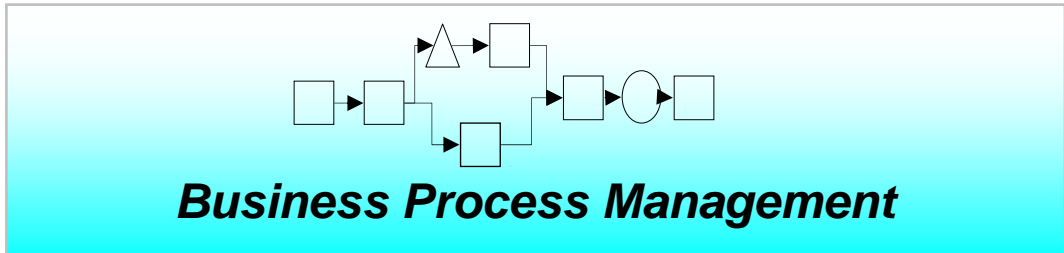
SOA improves how you design, manage, and optimize your business processes by enabling:

- Solution Building Efficiency
- Reuse of existing assets
- Flexibility in change

SOA at the core of BPM:




SOA is the main opportunity for transversal ASW Integration through Composite Application



Modeling & Simulation

Design and simulate business processes




Monitoring (BAM)

Track performance, processes and operational activity using key performance indicators



Process Execution & Optimization

Choreograph processes across applications, systems, and people



Rules and Pre-built Frameworks

Manage process rules and accelerate design and implementation time



Content & Collaboration

Manage group tasks, documents, forms as part of process



- **In the Industrial sector, most of the examples are in a pilot stage due to :**
 - Complexity of data's (configuration oriented)
 - Variability and flexibility of the processes needing to build and integration by the « macro model » rather than by the transaction
 - Multiple languages (national and business « slag »)
 - Unable to stop current engineering or manufacturing capabilities. Need to set-up the pilot on new product or new workshop or plant.
- **Most of the experiments are located in North America or Asia Pacific.**





Innovation Challenges: Shrinking product cycles require continuous product development process improvement



CEO's are spending to close the gaps

Companies will spend some \$80 billion by 2008 on solutions to align their business strategies with product development.

- **Products**

- Innovation applied to create better, faster, and more attractive products or services.

- **Operations**

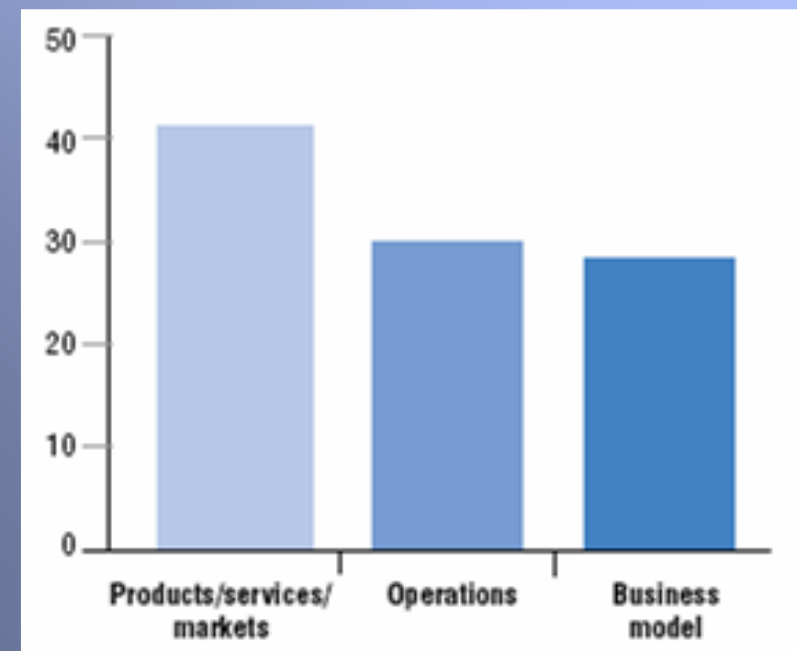
- Improved infrastructure break-down IT-imposed barriers and inefficient functional silos.

- **Business Model**

- Changes to partnering models, sharing more risk with suppliers and creative cooperation on development projects.

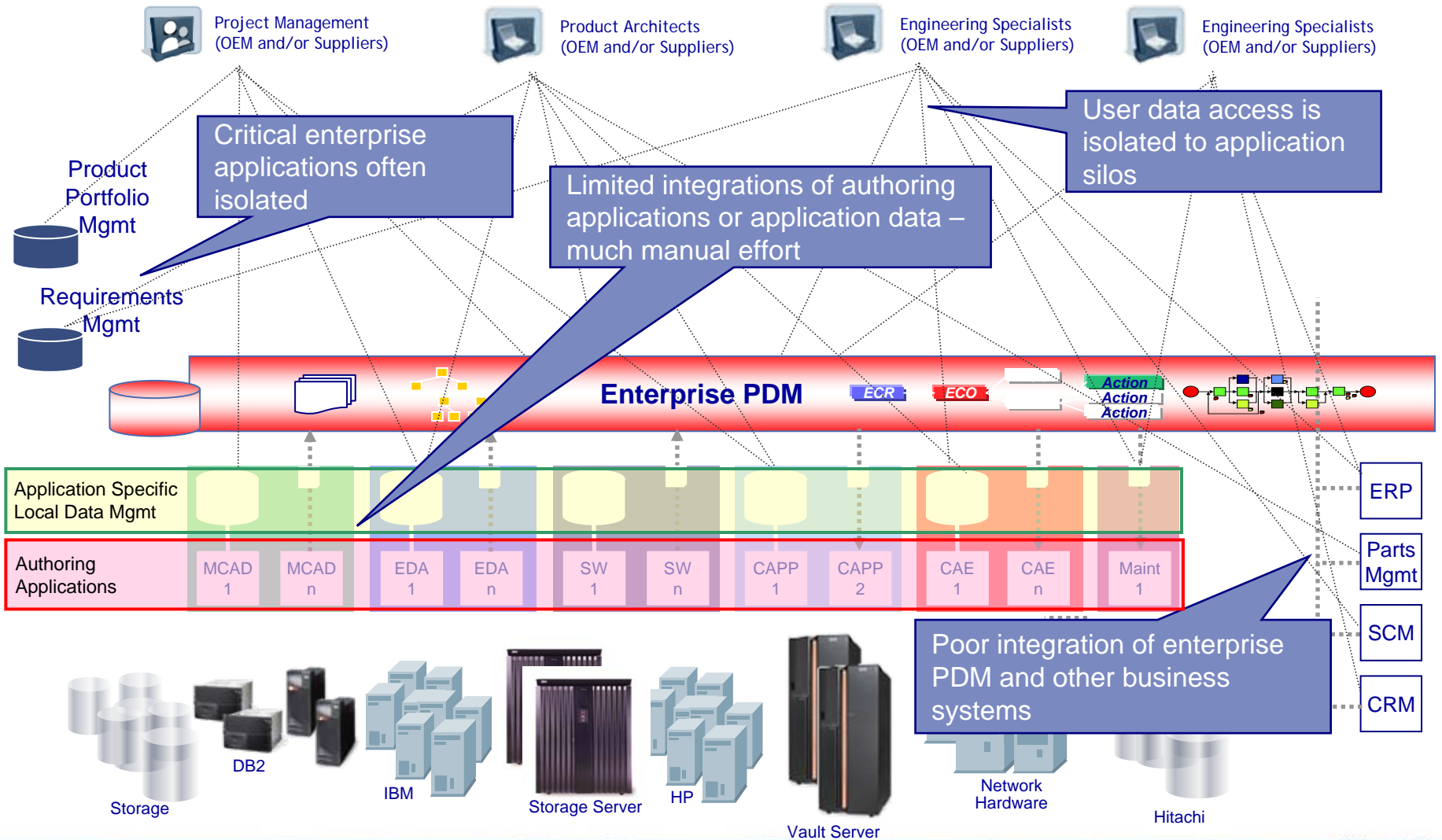
CEOs' innovation emphasis

(% of emphasis allocated to each innovation type)



Source: IBM market research

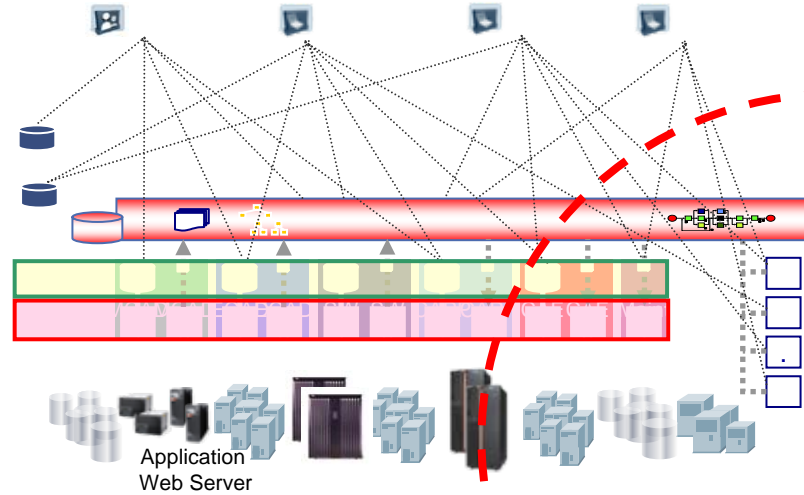
Common PLM Environment



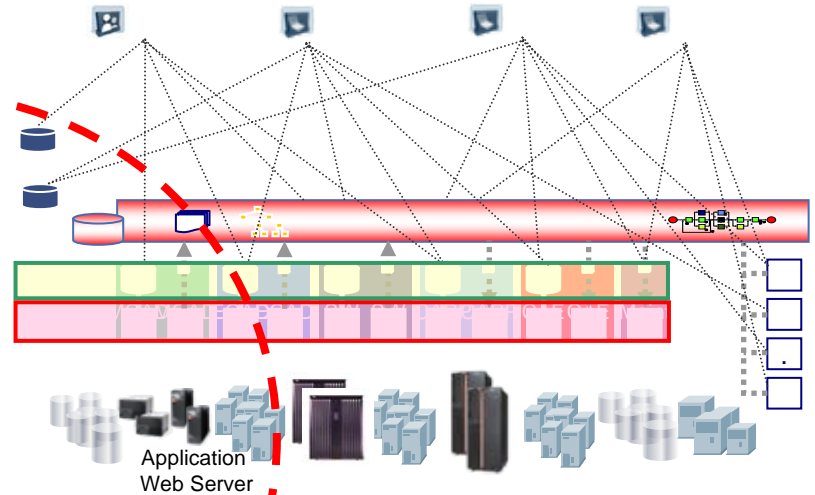
Complexity Compounded



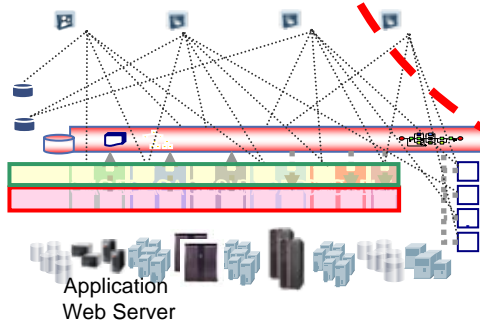
OEM Division 1



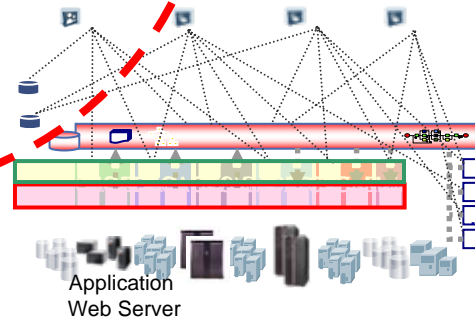
OEM Division 2



Design Partner 1 - n



Supplier 1 - n



Processes involved in PLM

Key processes that need cross-discipline access to a variety of product data



Portfolio
Planning

Concept
Development

Design

Production &
Testing

Maintenance &
Support

Retirement &
Disposal

A. Requirements Management - Capturing and sharing of product requirements to communicate project goals, enhance development collaboration and reduce risk.

B. Configuration Management - Providing a unified product configuration viewpoint amongst heterogeneous PLM systems across a variety of functional domains.

C. Project & Portfolio Management - Strategic planning, resource allocation, and monitoring of programs across the entire product portfolio.

D. Engineering Change Management - The creation, review and implementation of change requests and change orders.

E. Analysis & Simulation - Accessing product data to conduct engineering analysis and visual prototyping.

F. System Integrity Validation - Validating product design against relevant requirements and functional specifications.

G. Aftermarket Support - Integrating product development with owner / operator usage and maintenance.

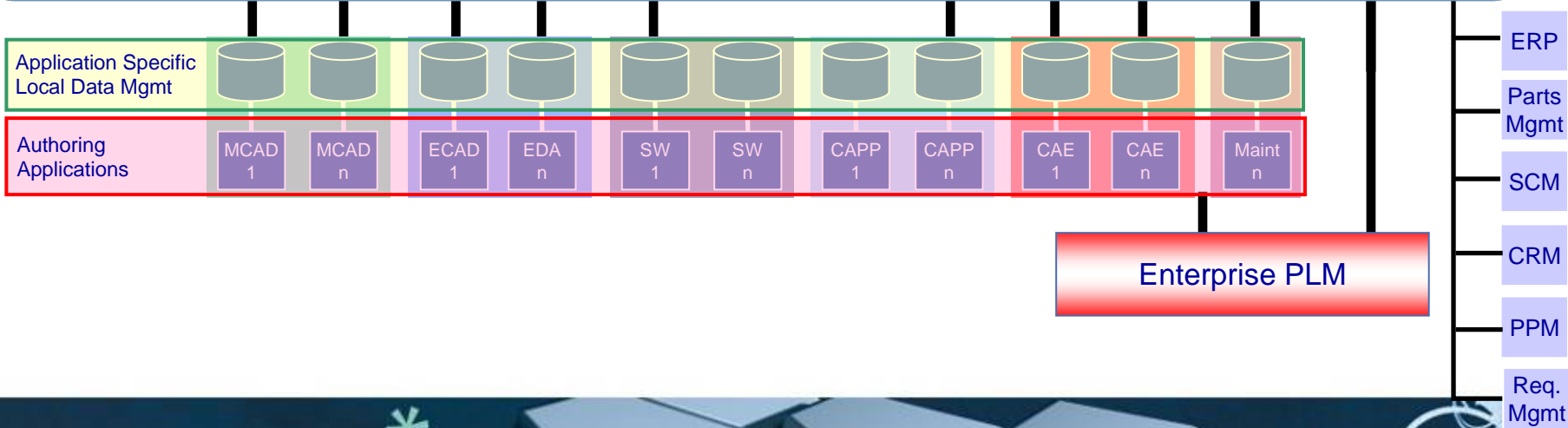
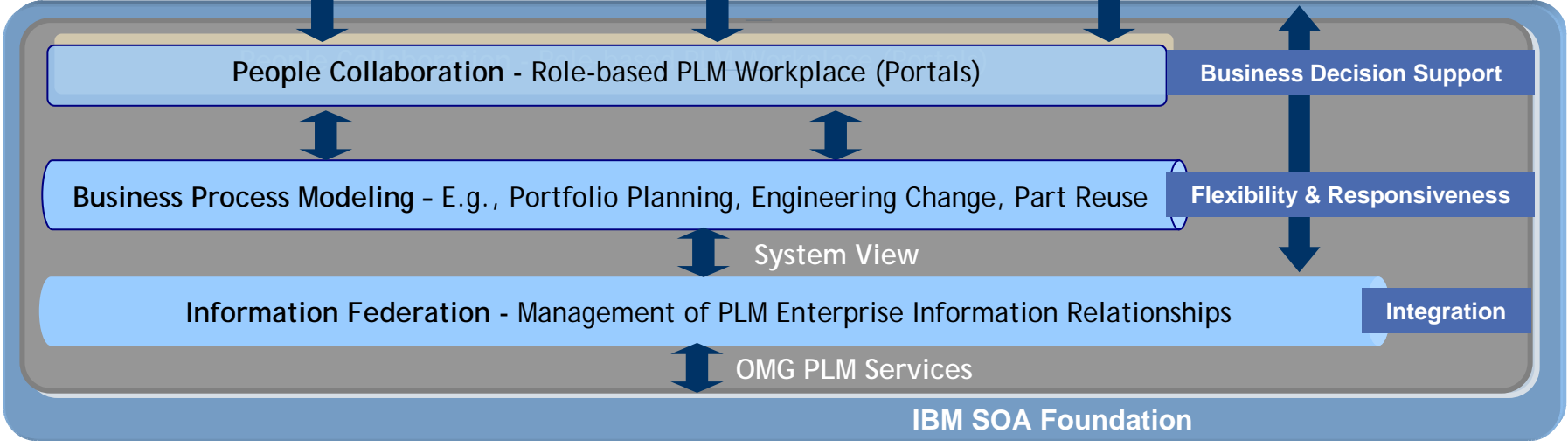
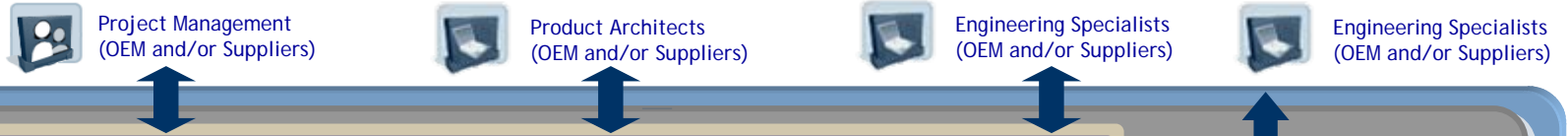
H. Commonality & Parts Reuse - Analysis of the applicability and risks associated with reusing a platform or component.

I. Supplier & OEM Collaboration - Supply chain collaboration throughout the entire product lifecycle.

Targeted PLM Environment



SOA enables PLM development processes using native data role-based access to cross-application business processes





Extended Enterprise Complexity: Increases in global partnerships/joint ventures/M&As/outsourcing expose integration shortfalls

Supply Chain Business Value Proposition

Business flexibility and responsiveness enables innovation



Challenges

Innovation by flexible / responsive manufacturers

- Limited visibility to demand & schedules,
- Lack of planning tools
- Poor on-time delivery performance
- Limited external information sharing
- Disparate supplier relationships
- Material shortages
- Excessive / redundant inventories
- Long cycle times
- Constant re-planning
- Inaccurate data
- Untimely data availability



Better identify and predict differentiators through the integration of customer, partner and external market data and analytics.



Enable planners, partners and engineers to efficiently collaborate on design and demand planning to speed new product introduction



Rapidly on board new partners while maintaining automated workflow through a partner gateway



Leverage industry standards (e.g. RosettaNet, Boost-Aero) to automatically collect, maintain and manage compliance with regulatory agencies

Source: *Becoming a Leader Among Leaders*, Electronics CEOs reflect on their innovation capabilities

IBM Institute for Business Value

Effective and scalable enterprise solution to solve the existing supply chain control pain points



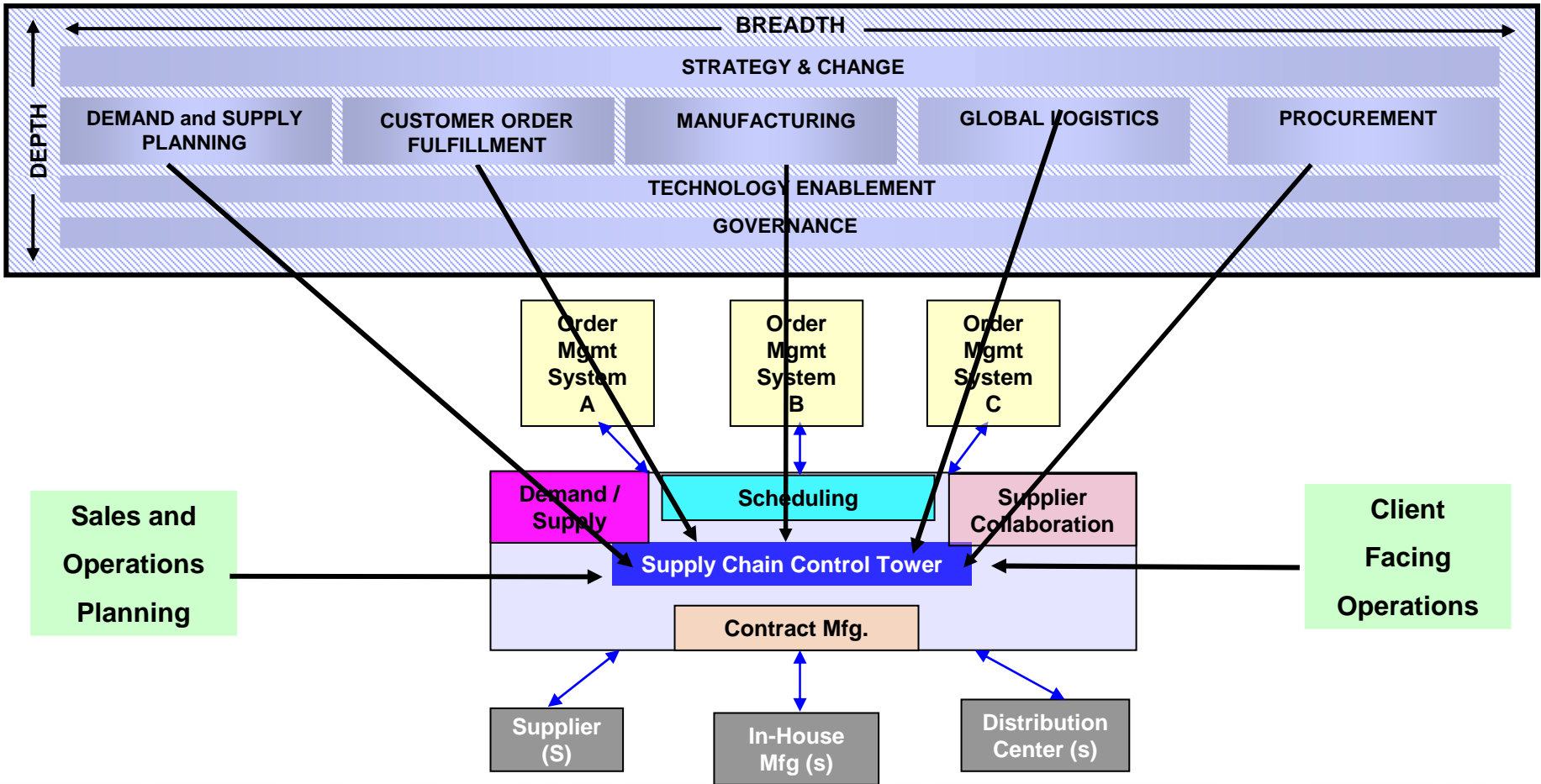
- Developing a single common solution infrastructure that includes:
 - The elimination of **supply chain fragmentation** and ad-hoc communication with customers and suppliers
 - The enablement of supply chain **event management and real-time visibility to data**
 - A supplier collaboration dashboard to speed the supply chain processes and enhance suppliers' performance
 - The need for the customer to make a change to replace existing systems with new ones
- Using a business model based on open standards SOA to:
 - Provide a flexible, componentized and extendible enterprise infrastructure
 - Provide implementation tools from modeling/simulation, to build, deploy and monitor
 - Enable faster deployment through the re-use of existing services, templates and pre-built tools
 - Enable customers to choose it based on their constraints and what they want to achieve



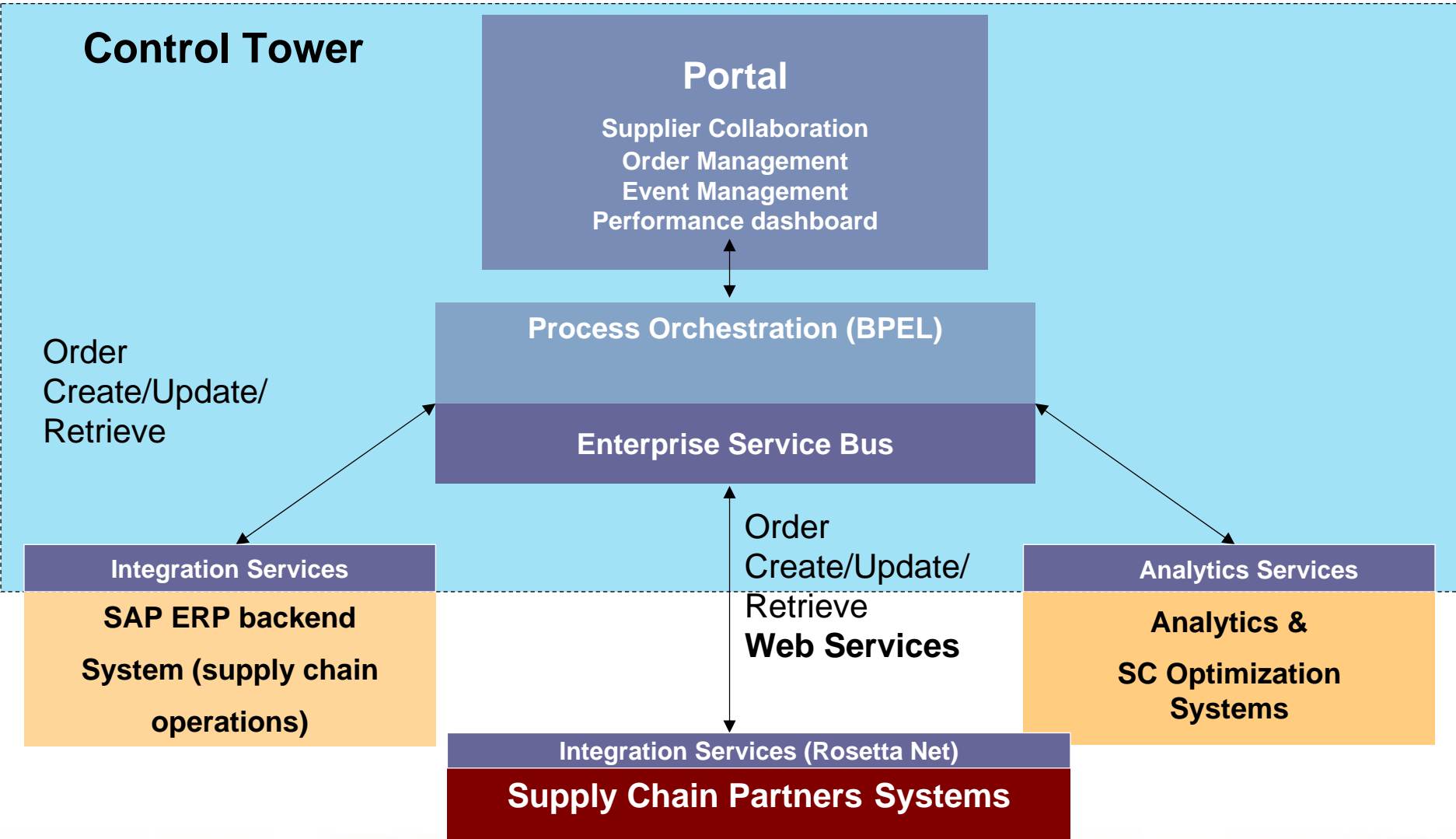
Supply Chain Control Tower



The Supply Chain Control Tower enables clients to seamlessly manage their end to end supply chain operations giving them visibility to events and data to make timely decisions



Supply Chain Control Tower High Level Architecture





Customer Acquisition & Retention: Fickle customers/consumers erode brand equity and hasten commoditization

The mandate for a consistent customer experience



Businesses need tightly integrated information and channels

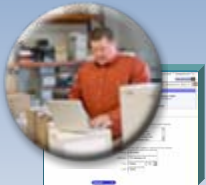


**Distributor
Web Site**



**Company
Web Site**

- Consistent customer experiences throughout the entire customer lifecycle
- Consistent, timely and accurate product information
- Combining a customer branded experience for Tier 1 customers with an OEM branded experience for Tier 2's
- Enabling direct and third party fulfillment processes for multi-tiered distribution
- Tight integration with back-end system



**Employee
Portal**



**Customer
Branded Web Site**



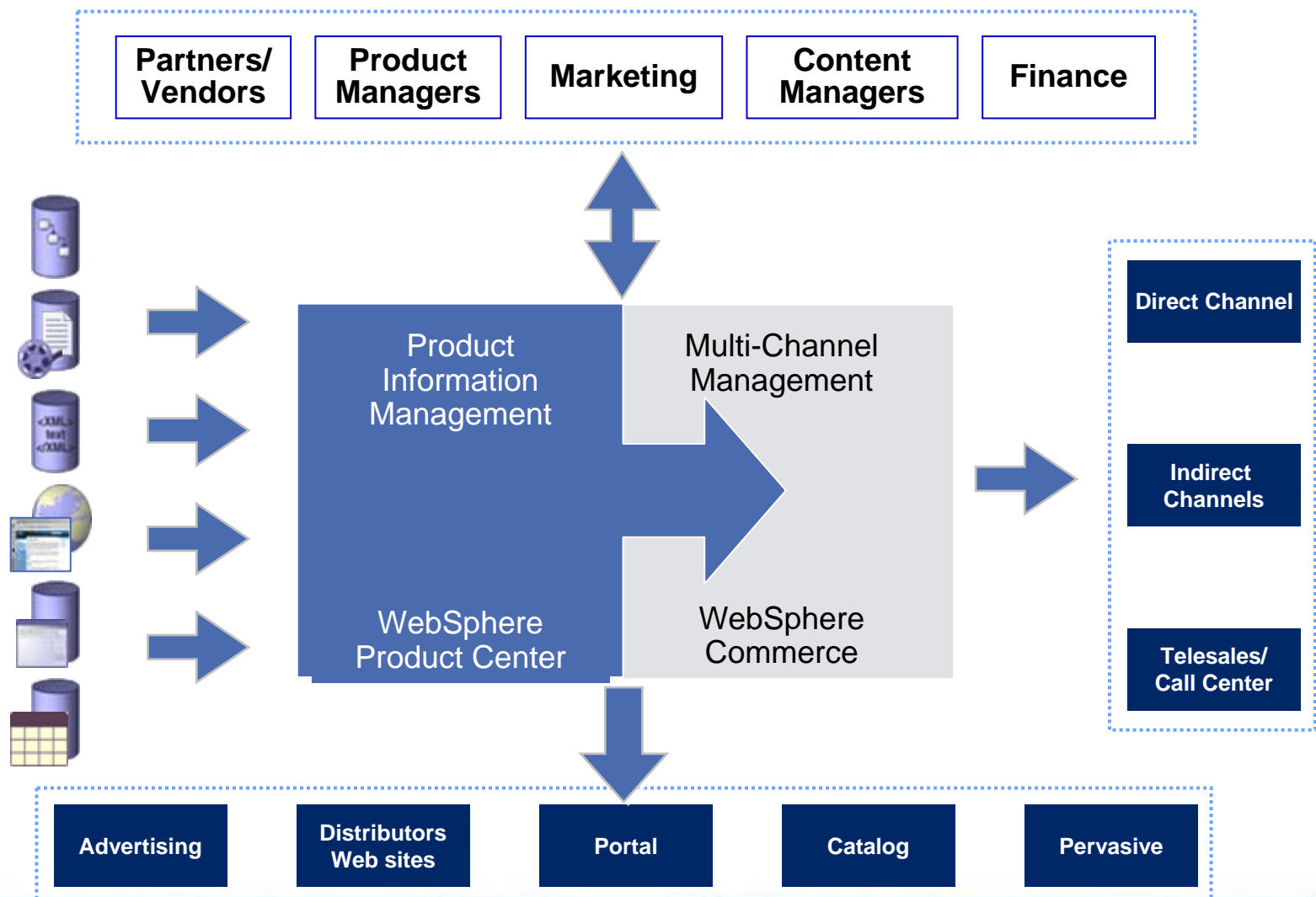
Catalog



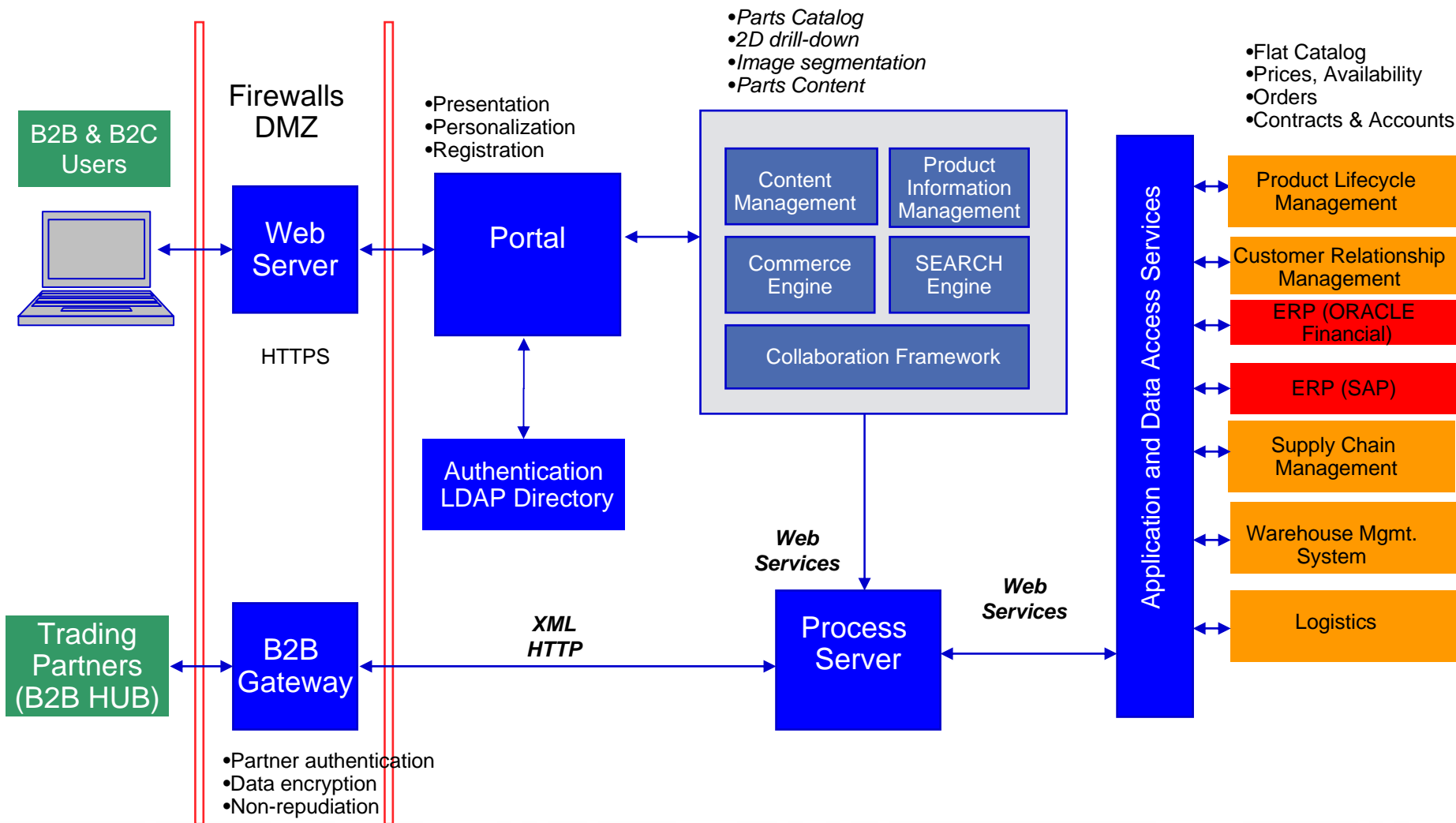
Call Center



Channel management and product information integration solution



High level solution architecture for customer self-service





- **SOA gives**

- flexibility
- scalability

Aligning Business Objectives and business processes
Through

Composite Application Enablement



धन्यवाद

Hindi

多謝

Traditional Chinese

ขอบพระคุณ

Thai

Спасибо

Russian

Gracias

Spanish

நன்றி

Tamil

Merci

French

Thank

English

شكراً

Arabic

Obrigado

Brazilian Portuguese

You

多谢

Simplified Chinese

Grazie

Italian

Danke

German

ありがとうございました

감사합니다

감사합니다

Korean