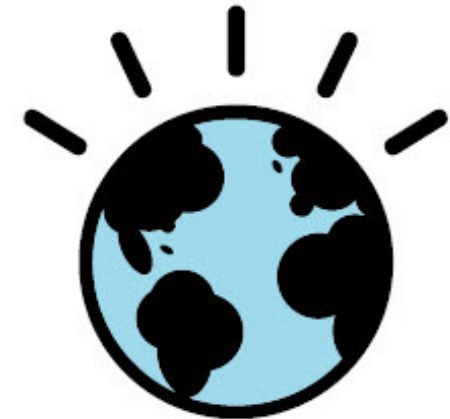


IBM Software Group

# What the CIO should do to optimise delivery

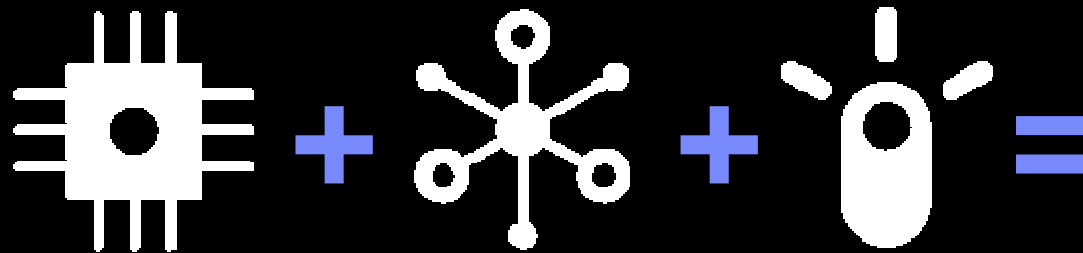
James Hunter  
Account Manager, UK and Ireland  
IBM Rational Software



[Go to IBM](#)



CIOs, with their **end-to-end view of the business**, provide a unique systems perspective of the enterprise that is critical to driving new growth and opportunity

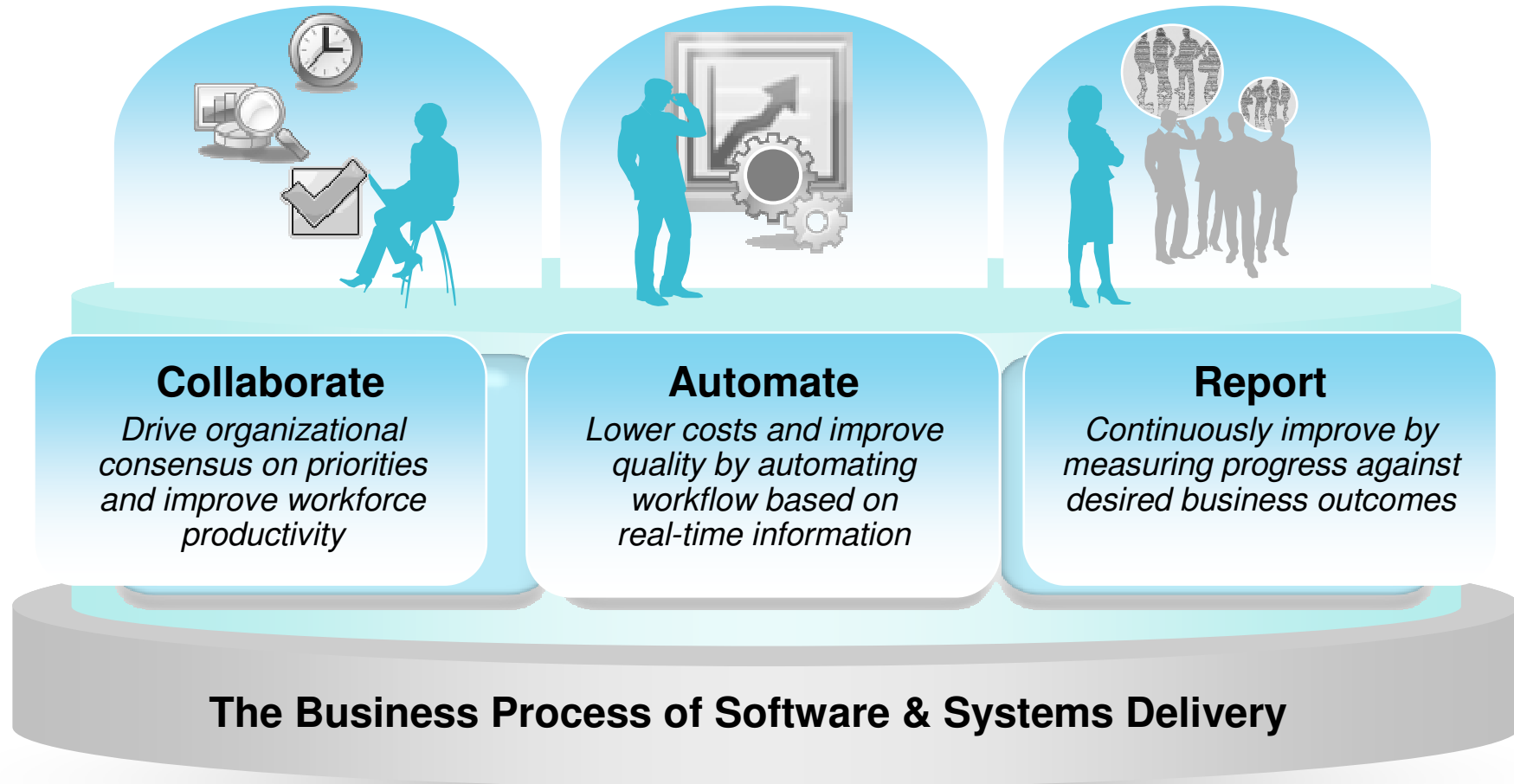


**Smarter planet:** Thinking and acting in new ways to make development and delivery more efficient, productive and responsive.

# Driving business differentiation in challenging economic times with agility and confidence



# Governing the process of software and systems delivery aligned with evolving business priorities



## Topics

- **CIOs leverage a wealth of information**
- **CIOs enable organisations to work smarter**
- **CIOs understand the need to drive greater efficiencies**
- **CIOs are enabling development and delivery environments**



Today, more than ever, CIOs and their organisations are under pressure to leverage a wealth of information to make more intelligent choices.

### VOLUME OF DIGITAL DATA

With the proliferation of end-user devices, sensors and actuators, the nature of data is changing. Data volumes and network bandwidth are expected to grow tenfold in the next three years.

### VARIETY OF INFORMATION

With the expansion of information comes large variances in the complexion of available data—very noisy with lots of errors and no opportunity to cleanse it in a world of real-time decision-making.

### VELOCITY OF DECISION-MAKING

The market demands that businesses optimize decisions, take action based on good information and utilize advanced predictive capabilities – all with speed and efficiency.

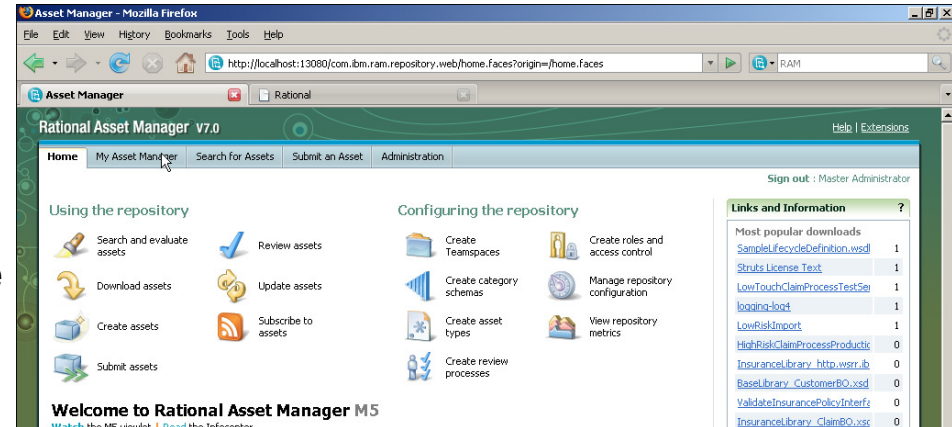
### SHIFT IN WHAT WE ANALYZE

Enterprises need a broader, systems-based approach to the information they examine and optimize. Stream computing and event processing capabilities are enabling the analysis of massive volumes.



# Introducing IBM Rational Asset Manager

- Collaborative asset management to identify and manage assets and ROI best practices
- Manages assets across their lifecycle from design/creation to consumption/change
- Manages service creation and reuse across service oriented architectures (SOA) projects
- Leverages an extensive library of process best practices for asset creation and reuse in Rational Method Composer (ABS, SOA, GDD, etc.)





# IBM Rational Asset Management System (iRAM)

## Facilitating asset management and reuse



*"The iRAM implementation has been very popular. In the last 3 months over 10% of the IBM population has visited the site and there are over 30K hits a week. This is for our pilot system that we have not publicized as yet!!!"*

- Bruce Besch, Business Manager, IBM Asset Management Systems (iRAM)  
SOA Quality Control and Risk Management

### Challenge

- Support an asset management strategy, while managing the interrelating business, process and technical issues to ensure delivery of iRAM into the business
- IBM is in the business of providing reusable assets to customers as part of its services business

### Solution

- Build on IBM Rational Asset Manager as the mission-critical foundation of the iRAM program
- This system will represent a key capability in IBM's competitiveness. By leveraging Rational Asset Manager, iRAM provides a strategic integrated system for the management of all reusable assets, including application design work products from multiple lines of business

### Results

- Fewer places to search/download reusable assets, saving time and money and encouraging reuse
- Makes assets available to clients, which means solutions reach a broader audience
- Manages an entire engagement from a central organization, eliminating confusion, encouraging consistent best practices and consistent engagement models and deployments
- Lowers the price on an engagement while still enjoying low project risk
- Utilizes a governance process that includes access control by asset control list and user profiles, which provides security of the reusable assets



Today, CIOs can enable organisations to work smarter, supported by flexible processes modeled for the new way people buy, live and work.

### **ECONOMIC PRESSURES**

Increasing strains on the global economy are galvanizing leadership to build visibility and control into their business models to mitigate risk and optimize profit.

### **GLOBAL COMPETITION**

In a global economy, intense competitive pressure is driving more efficient markets. To stay ahead, businesses will need to build more agile models and be the first to seize golden opportunities.

### **THE DEMANDING CONSUMER**

Customer expectations have never been higher. By figuring out exactly what people want, companies are tapping into hidden opportunities and rolling out innovative products and services.

### **IT INTEGRATION**

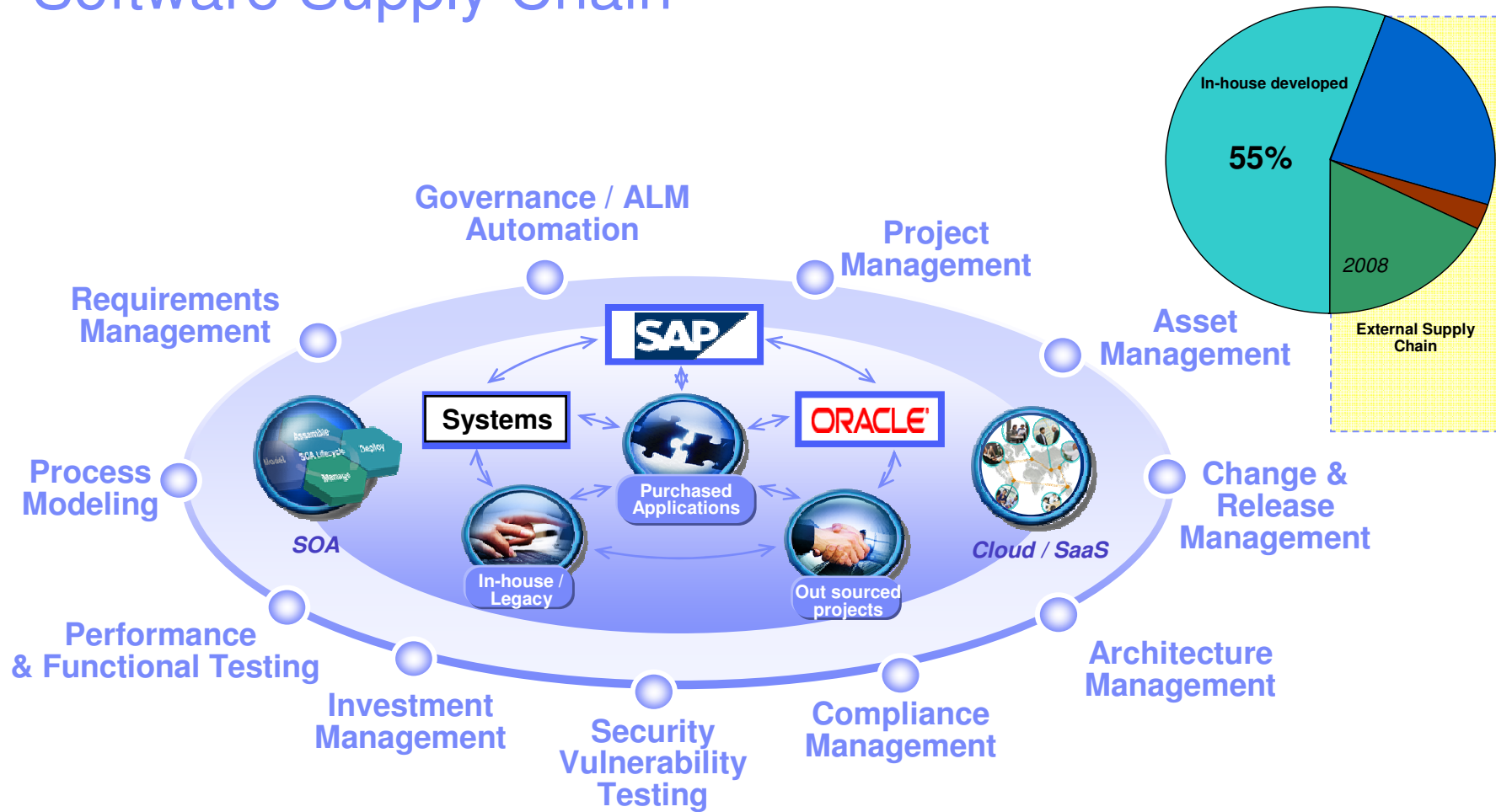
Breakthrough applications like Cloud and Web 2.0 are empowering the business user, driving the convergence of business and IT, and blurring the lines between companies and their customers.







# “Software Supply Chain”



Composed of purchased, outsourced and in-house built software assets which are ever-evolving and increasingly interdependent





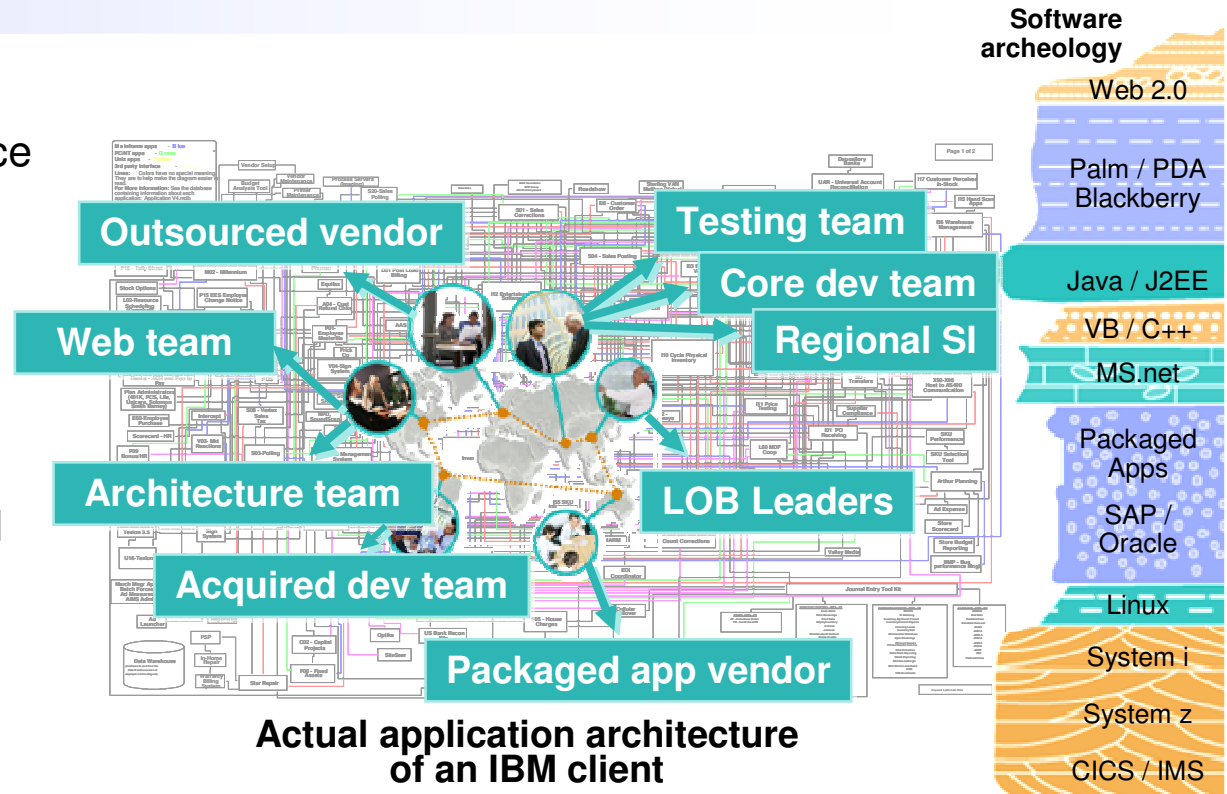
# Performance of people & assets in software supply chains



**“Whether designing an airplane, assembling a motorcycle [or delivering software]... the ability to integrate the talents of dispersed individuals and organizations is becoming the defining competency for managers and firms.”**

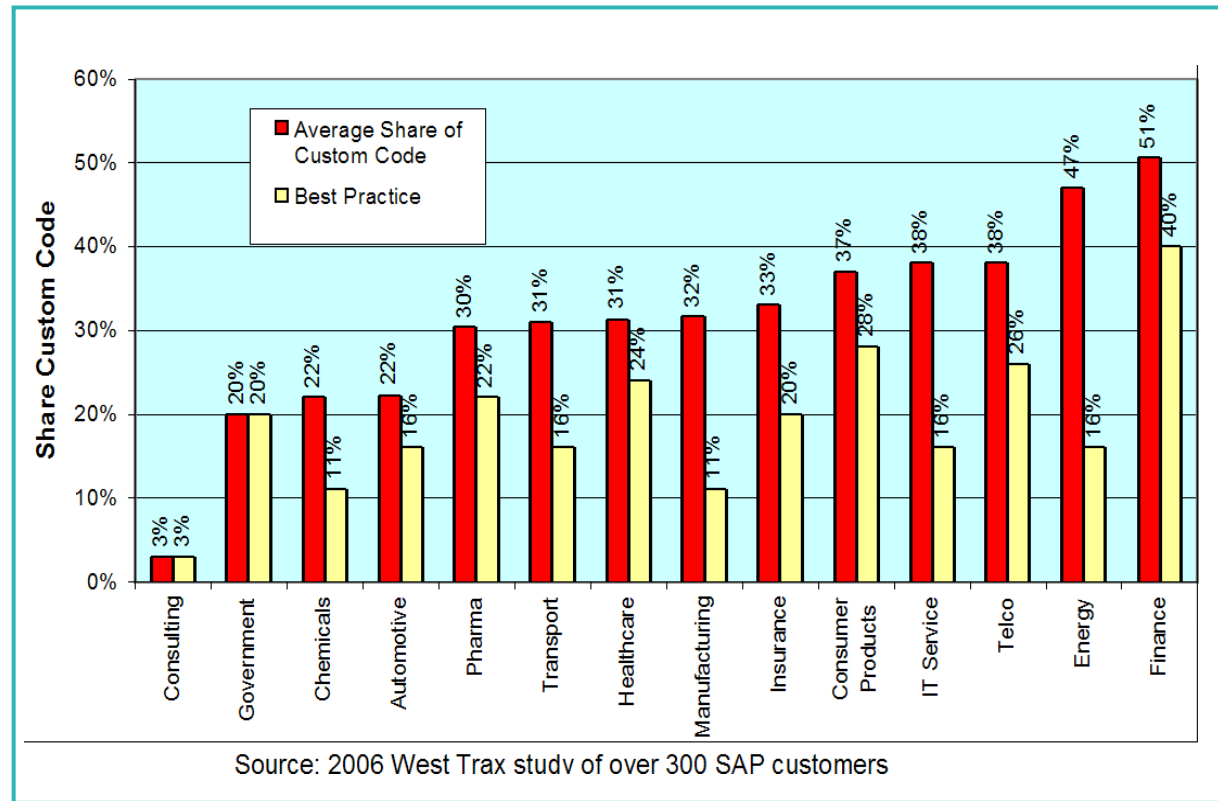
-- Tapscott & Williams, Wikinomics, Copyright 2006

- Lack of architectural governance
- Layers of disjointed, poorly managed software assets
- Contributors are everywhere with diverse skills, roles
- Growing complexity associated with IP & regulatory mandates
- More formal IT & business service level agreements

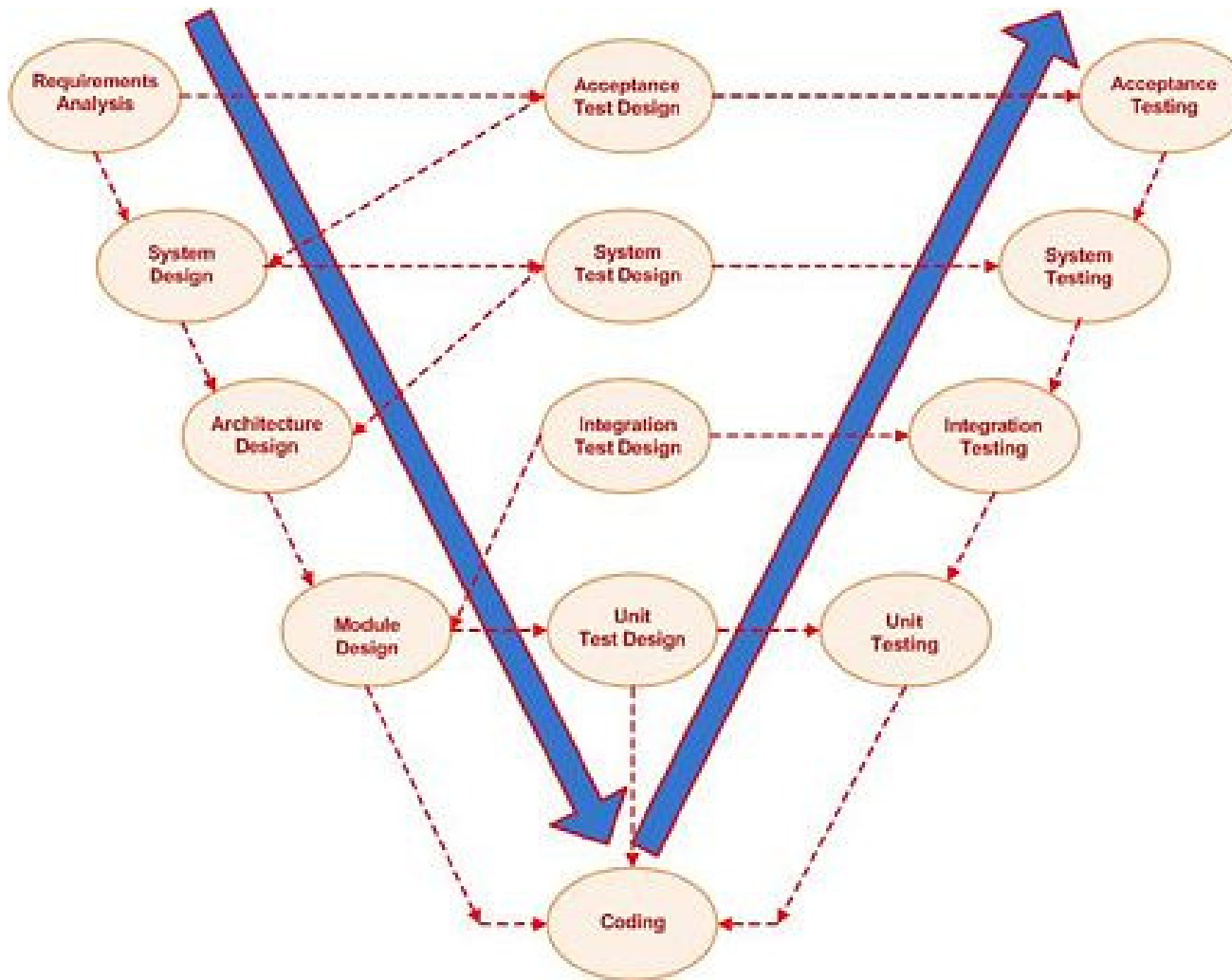


# Custom code and integrations raises the complexity bar for packaged application implementations

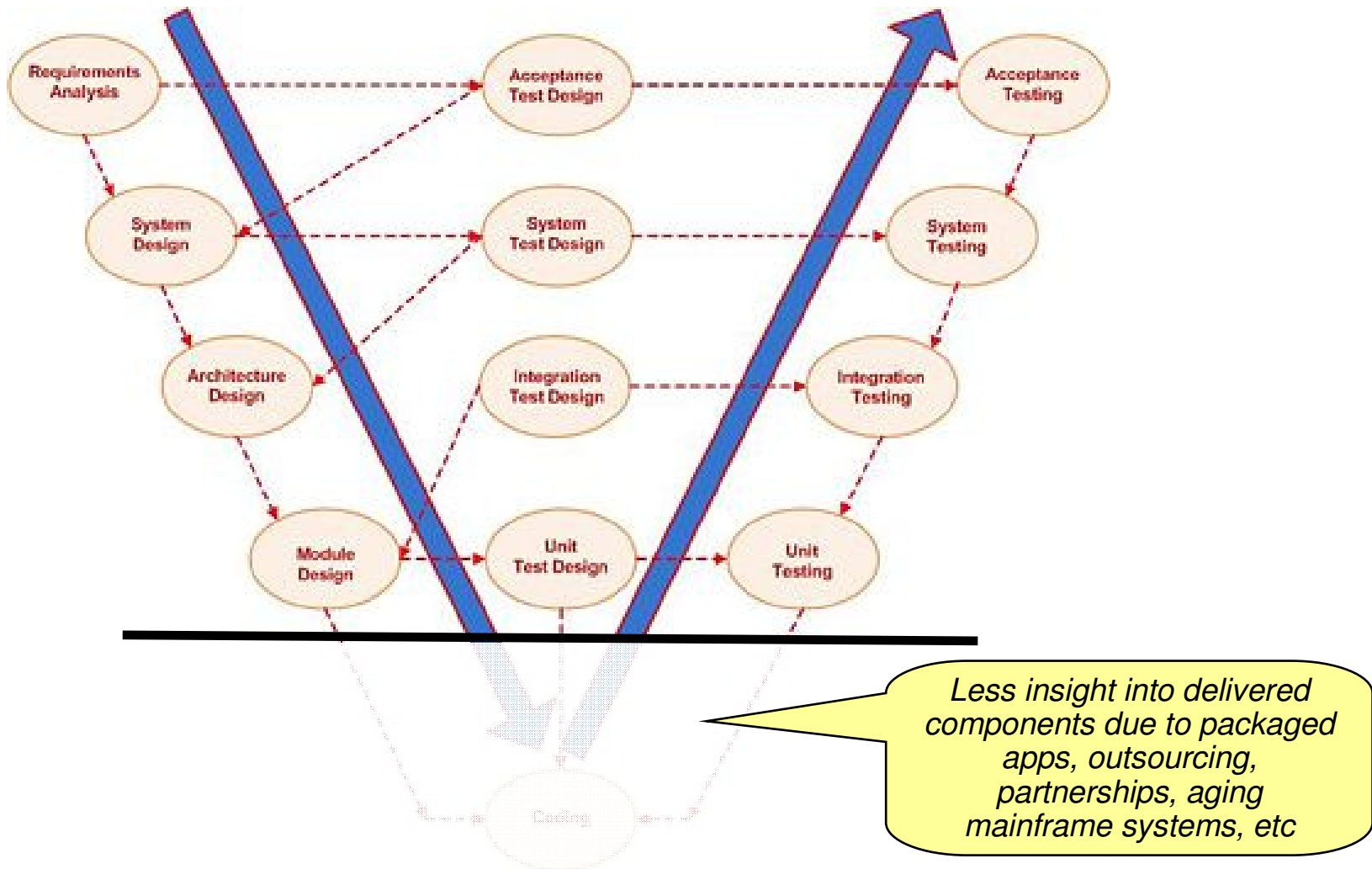
- **Example: 20-50% custom code in SAP projects**
- **Impact:**
  - ▶ Increases the complexity, cost and risk of upgrades and new implementations
  - ▶ Requires packaged app delivery solutions to operate across the enterprise of systems – not only with the packaged applications being delivered



# Implications of Global Sourcing -1

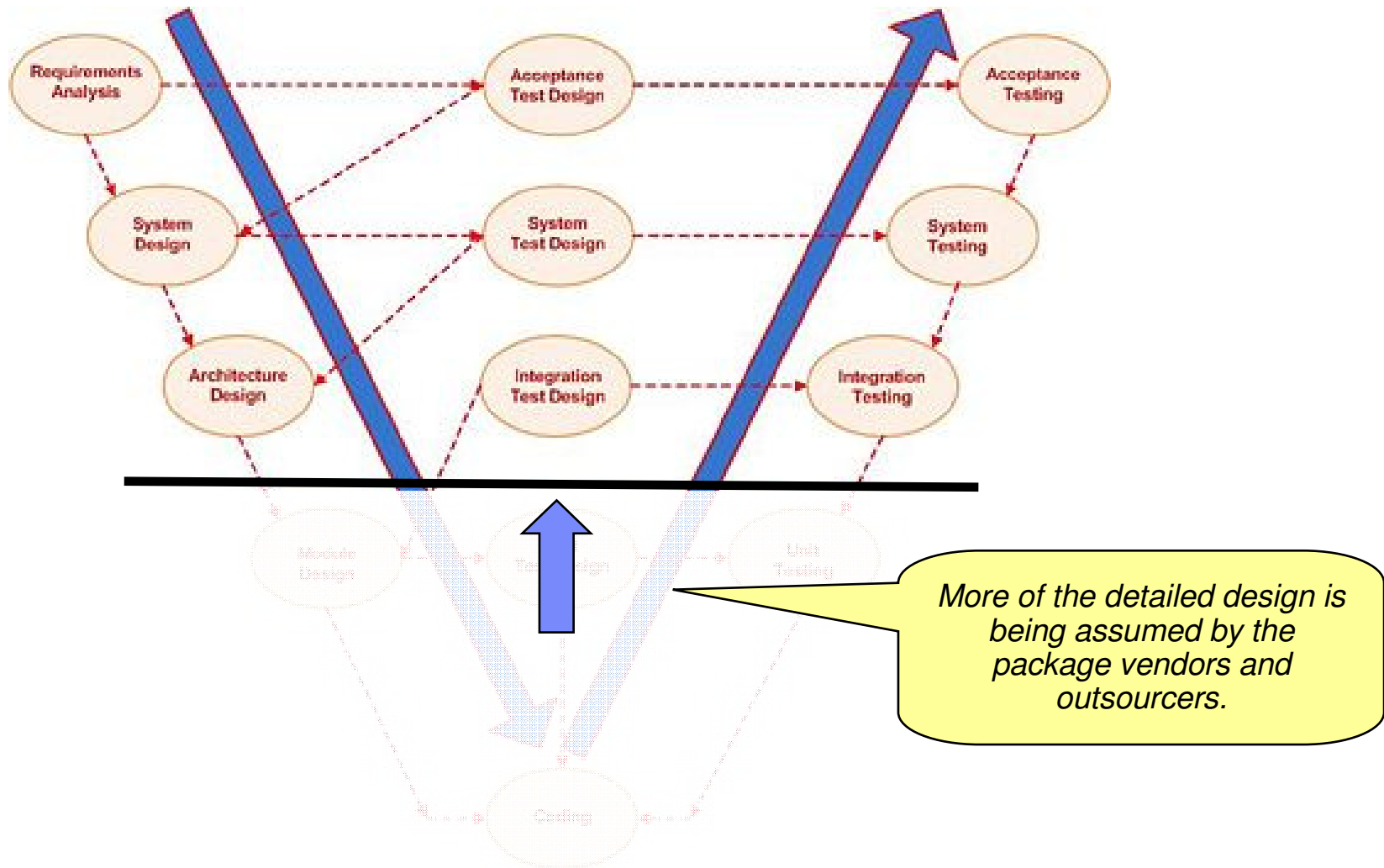


# Implications of Global Sourcing -2

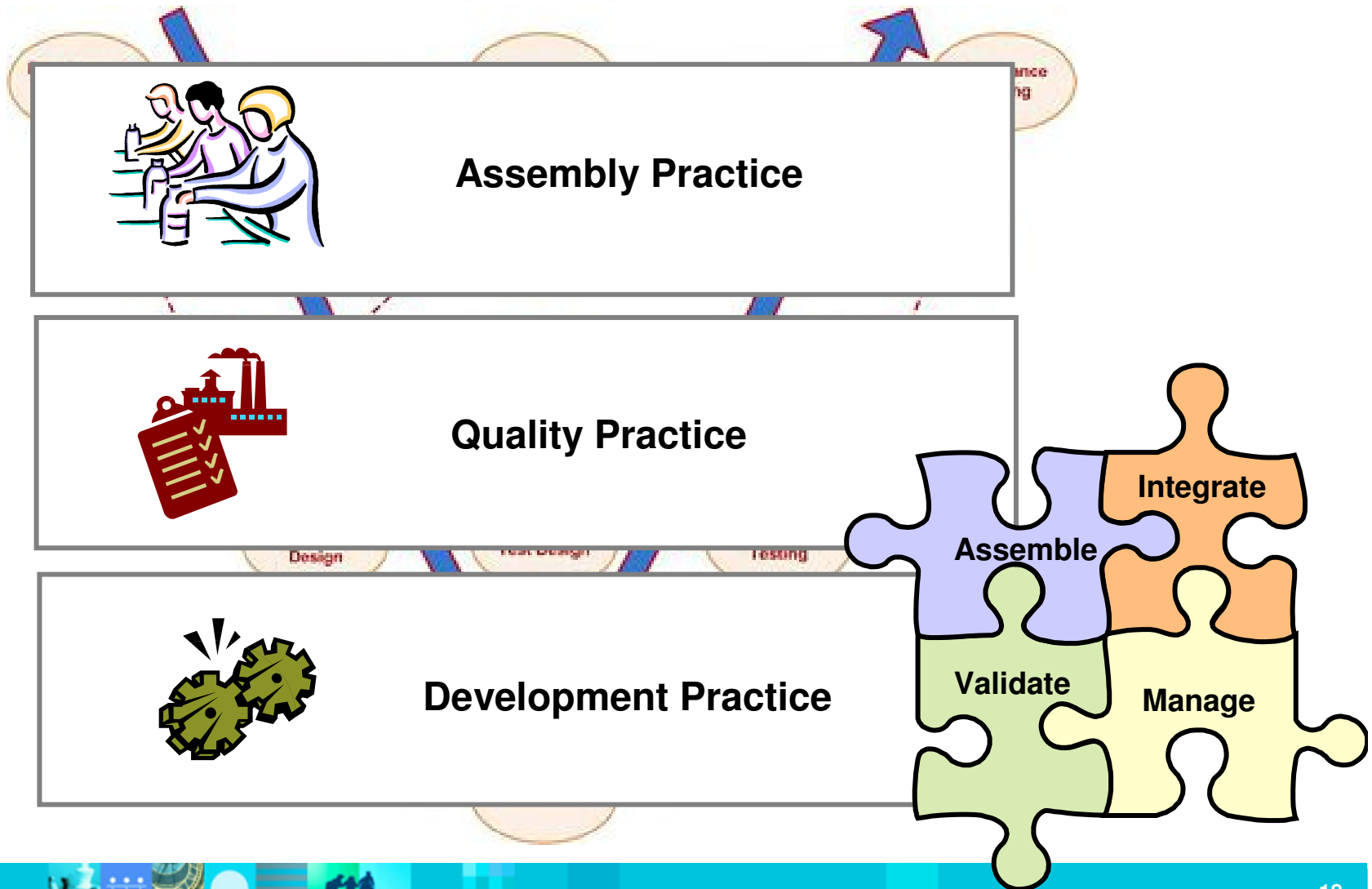




# Implications of Global Sourcing -3



# Global sourcing & solution delivery



## Considerations when adopting a software sourcing model

- **Change Management across the Supplier/Consumer Relationship**
  - ▶ Focus as much attention as possible on Requirements stability and iteration
  - ▶ Use a consistent change management framework across teams
  - ▶ Work with suppliers on explicit, controlled SLAs
- **Governance and Control**
  - ▶ Ensure there is a common view of control across the supply chain
  - ▶ Enhance and revise governance for reuse practices that cross LOB
  - ▶ Optimize processes based on a well-understood improvement framework
- **Solution Engineering Optimized for the Delivery Platform**
  - ▶ Standardize solutions using common core patterns and assets
  - ▶ Use domain-specific languages to enhance productivity
  - ▶ Optimize to the delivery technologies
- **Asset management and Reuse Infrastructure**
  - ▶ Know what assets are available, and how they are being used
  - ▶ Categorize and deliver assets within and across LOB silos
  - ▶ Enable management and support for asset sharing



# Today, CIOs understand the need to drive greater efficiencies by taking action on energy, the environment and sustainability.

## **LAWS, REGULATIONS AND STANDARDS**

Governmental regulations and laws are designed to reduce emissions of greenhouse gases, protect natural resources and limit further damage.

## **GROWTH OPPORTUNITIES**

Worldwide demand for greener products, technologies and services has opened up the best emerging market opportunities since the Internet boom of the 1990s.

## **STAKEHOLDER EXPECTATIONS**

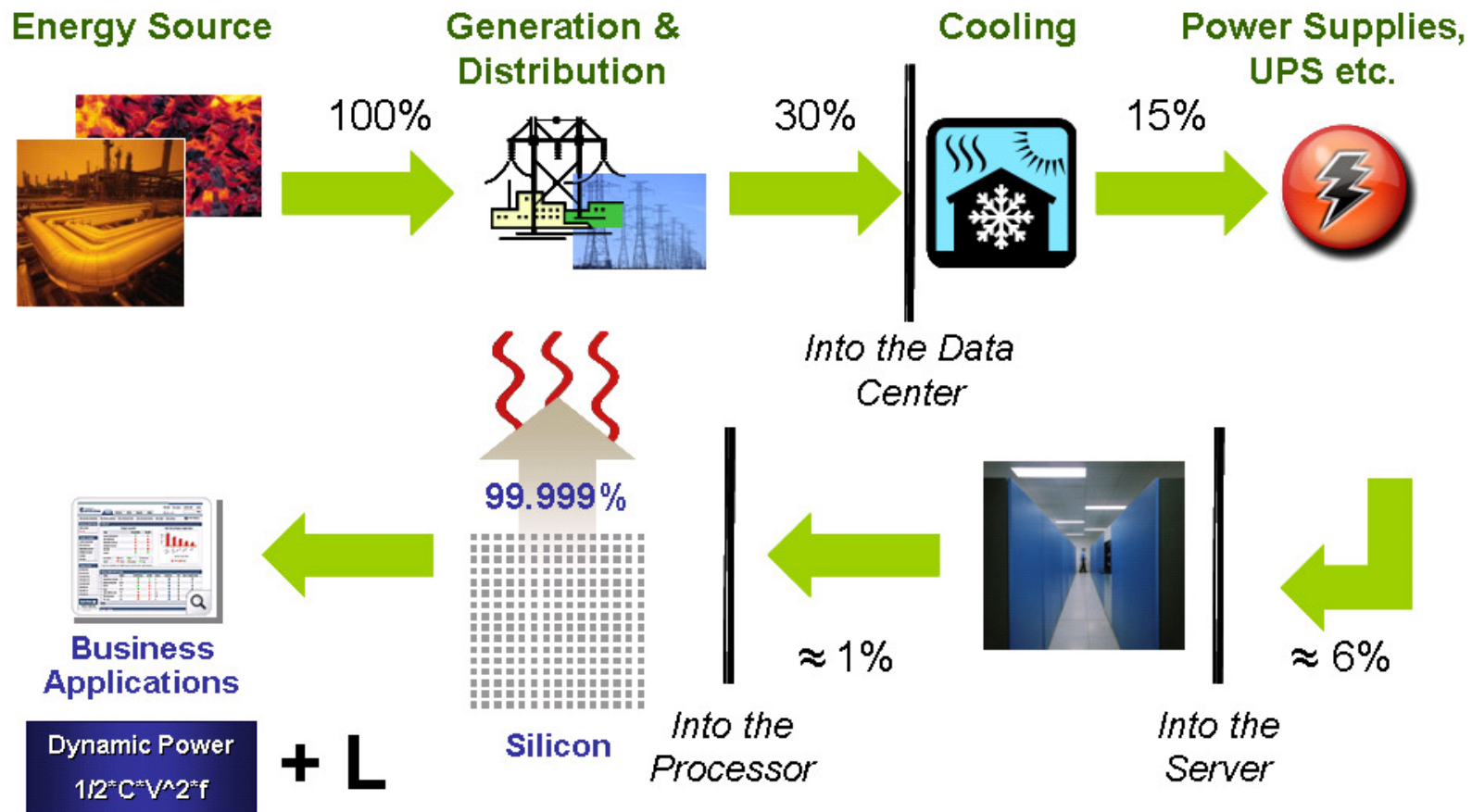
From investors to market analysts, from employees to consumers and NGOs, the clamor for consideration of environmental and economic consequences of activities is growing.

## **COSTS AND AVAILABILITY**

Leaders face rising costs and uncertain availability of energy, waste disposal, water and raw materials. Risks for physical assets due to climate change and global warming are real.



# Shift from cost to CO2 optimisation



# Utilise web 2.0

*“Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform.” O’Reilly*



- New social / community models
- New technology models
- New business principles

Social Software	Enterprise Mashups	Rich Internet Applications (RIA)
<ul style="list-style-type: none"> <li>▪ Create an architecture of participation</li> <li>▪ Use network effects to leverage the collective intelligence of your organization, customers, and partners.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quickly unlock, remix and combine content and services into new applications to meet situational needs.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Enable rich user experiences to facilitate greater ease of use, ubiquity of access, and increased user affinity.</li> <li>▪ Reduce application manageability, deployment, maintenance, and TCO by minimizing installs, plug-ins, distributed updates, etc</li> </ul>
<b>Core Technologies:</b>		
<ul style="list-style-type: none"> <li>▪ Web-accessible data generation &amp; consumption (Http/Rest, XML, JSON, RSS, Atom)</li> <li>▪ Interactive web client UI’s (Ajax, Silverlight, Flex)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gadget-based portals</li> <li>▪ New security protocols (OpenID, OAuth)</li> </ul>	





## Combining cost and 'green' governance of software development and delivery

- **Manage how resources are allocated**
  - Predict how projects impact existing portfolios of projects and carbon footprints.
- **Developing smarter applications**
  - Design and develop to use less hardware and software resource.
  - Reuse existing services.
- **Allow collaboration in software development**
  - Minimise carbon footprint of global development teams.



In today's economy, CIOs are enabling development and delivery environments that drive down costs, and are intelligent and secure.

### **RISING COST PRESSURES**

Business and IT assets are underutilized and difficult to manage; operational cost and complexity are reaching unsustainable and uncompetitive levels.

### **HIGHER SERVICE EXPECTATIONS**

Increasingly savvy customers demand quality service and continuous availability across an expanding range of assets and applications.

### **NEW RISKS AND THREATS**

Security, resiliency and compliance challenges are created by the accelerating pace of change and the proliferation of operating, IT and "smart" assets that compromise the underlying infrastructure.

### **EMERGING TECHNOLOGIES**

Smarter and more adaptive technologies, such as virtualization, must be harnessed effectively to drive business innovation, efficiency and responsiveness.

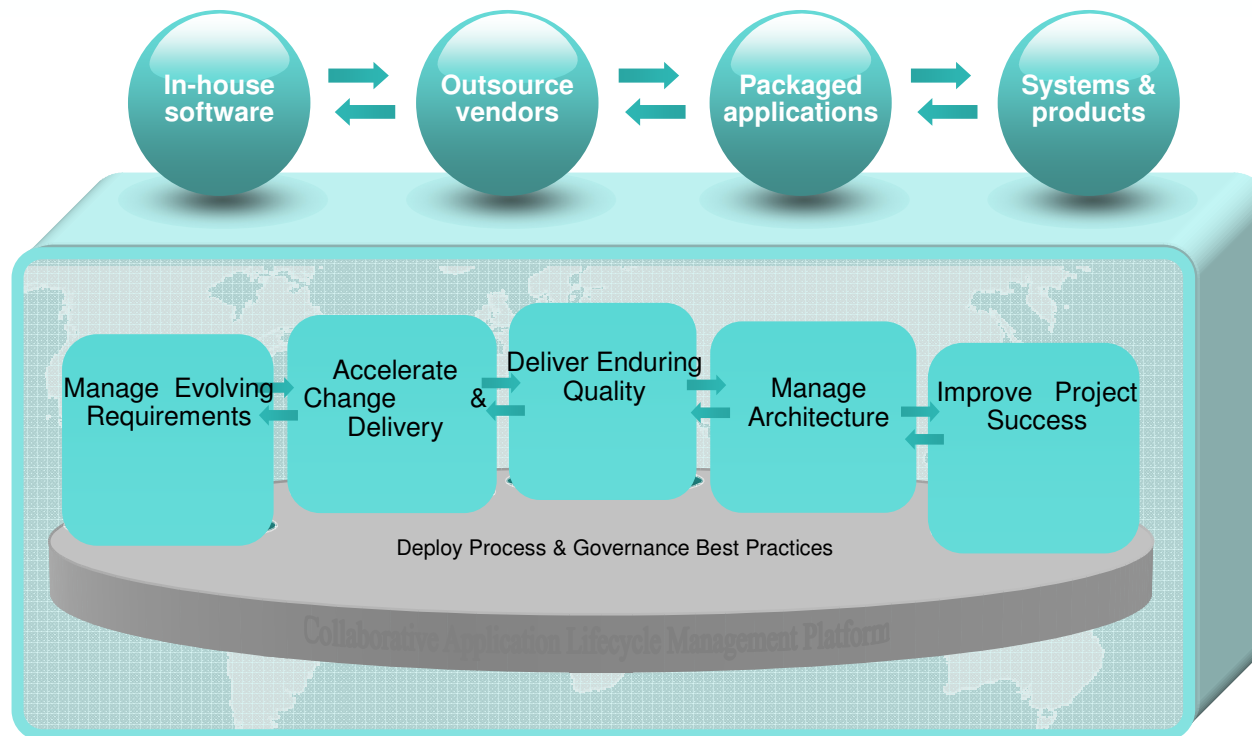




# IBM Rational Software Delivery Platform

**Rational.** software

***Solutions** to help customers achieve greater value and performance from their investments in delivering software*



- **Enterprise Modernization and Transformation**
- **Organizational Governance**
- **Skill Development and Community**
- **Implementation Services**

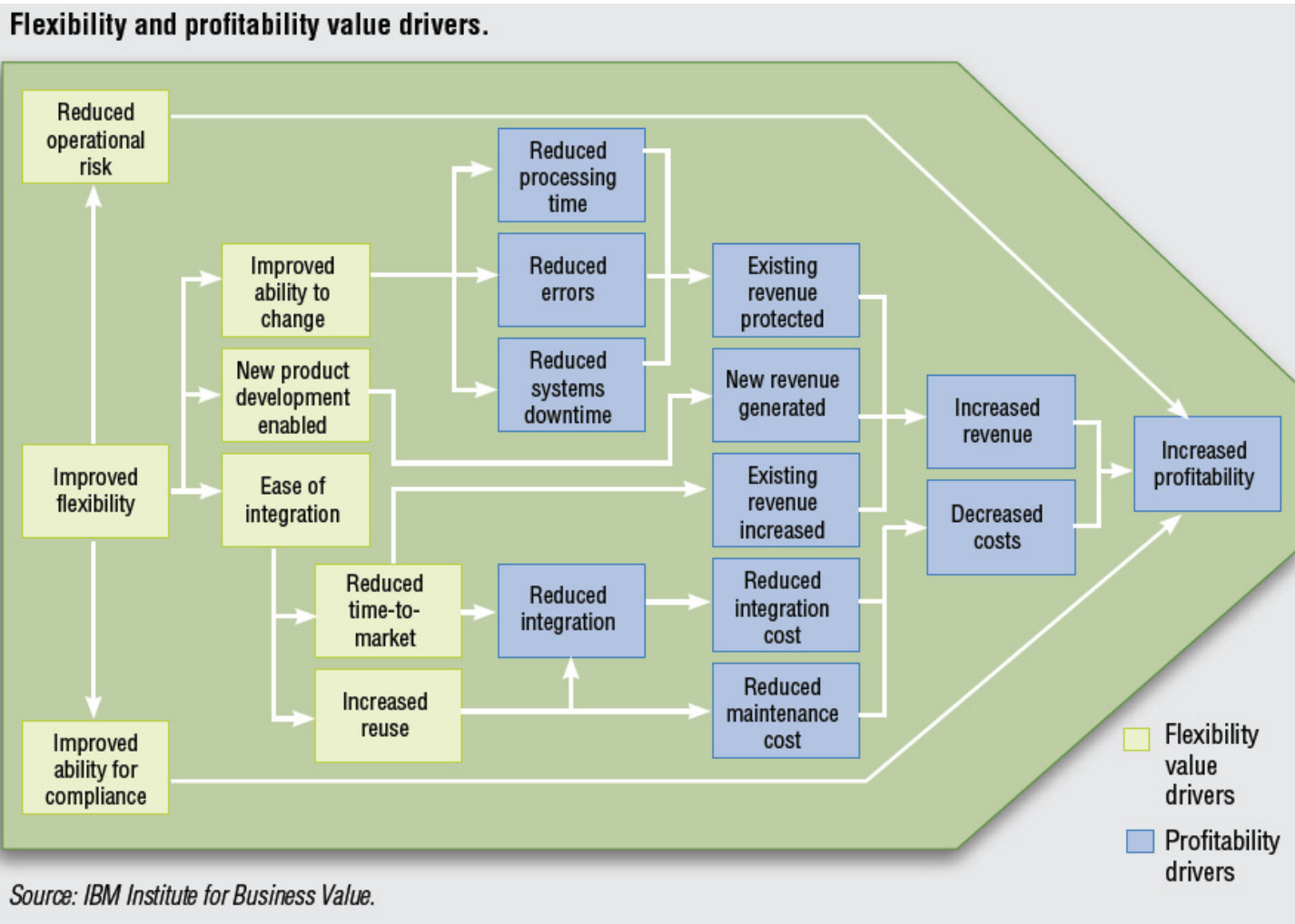


## Practice principles underlying a software factory approach

- Practices underpinned with **values**
  - ▶ ship quality on time
- **Used, developed** and **improved** over time
  - ▶ Worked for us (and others)
- Practices are from **all kinds of sources**
  - XP, Scrum, Crystal Clear, RUP, ...
  - Patterns - Organizational Patterns of Agile Software Development – Coplien
- It is **not low ceremony**
  - ▶ Approvals, verifications, reviews
- It is **agile and efficient**
  - ▶ iterative, time-boxed, incremental, feature-based, collaborative, transparent, customizable
- Teams are widely distributed and **naturally collaborative**



# Practices must focus on ROI



# Practices must measure improvements

## Map business value to software delivery practices

Target: Phase 1

Already implemented

Outside scope

### Example: Financial Service Company

#### Customer Business Challenges

- Create financial products more quickly
- Functionality of customer web falling behind competition
- Inconsistencies with integrated financial reporting
- Recent SOX audit failure

#### Operational Objectives

- Reduce time-to-market
- Improve productivity
- Increase innovation
- Improve consistency/predictability
- Improve oversight
- Enable flexible/global resourcing
- Satisfy compliance mandate

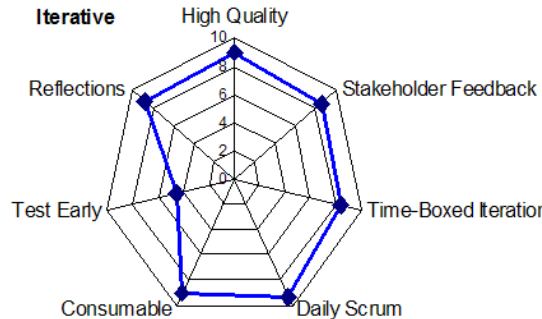
#### Software Delivery Best Practices

- Use-case driven development
- Continuous integration
- Shared vision
- Whole team
- Risk-value lifecycle
- 2-level project planning
- Test-driven development
- Asset-based development
- Asset governance
- Iterative development
- SOA modeling

#### Business Metrics

Project	Time to Market (M)	Quality (Defect Density)	Innovation (Cust. Sat.)
A	22	2.3	7
B	14	1.4	4
C	18	1.6	6
D	9	0.3	10
E	6	0.4	8

#### Ongoing Adoption Assessment



#### Adopt Practice

The screenshot shows the Rational Method Composer interface. The main window displays the 'Use-Case Driven Development Practice' with a detailed description, relationships, and motivation. The motivation text reads: 'Many organizations document requirements as a list of declarative statements (or "shall" statements) that lead the team to focus on development of atomic functions and fine-grained assertions of need. Moreover, applications developed from such requirements are often difficult to use and require more time for integration and testing than applications developed using user-focused requirements. A second, more serious organizational anti-pattern is no focus on requirements at all. Many'.

## Evolution of ALM tooling in a “Factory” Model

- Desktop/database integration → **Global integration**
- Function first → **Team first**
- Manual → **Process aware and transparent**
- Pre-determined tool function → **Dynamically extensible**
- Proprietary infrastructure → **Internet standards**
- Lengthy team and project onboarding → **Day one productivity**
- Rigid process → **Creative collaboration**
- Project post-mortems → **Continuous steering**
- Best guesstimates → **Real-time insight**
- Ad hoc shared artifacts → **Managed reuse**
- Local standards → **Industry standards**



# Creating a Platform That Can Transform Software Delivery

An open technology initiative to *transform how people work together* to deliver greater value and performance from their software investments



- Robust, extensible and scaleable
- Globally distributed, fluid and dynamic
- Community-based and open at Jazz.net

## Collaborate in Context

- Enable team transparency of “who, what, when, why”
- Build team cohesion and presence
- Automate hand-offs – so nothing falls through the cracks



## Right-size Governance

- Automate team workflow improving productivity
- Automate data collection eliminating administrative overhead
- Real time reporting and alerts reduces project risk



## Day One Productivity

- Dynamic provisioning of projects and teams
- Real-time iteration planning and workload balancing
- Unify teams with tools choice

***Real-time integration of people, process and projects across the lifecycle***





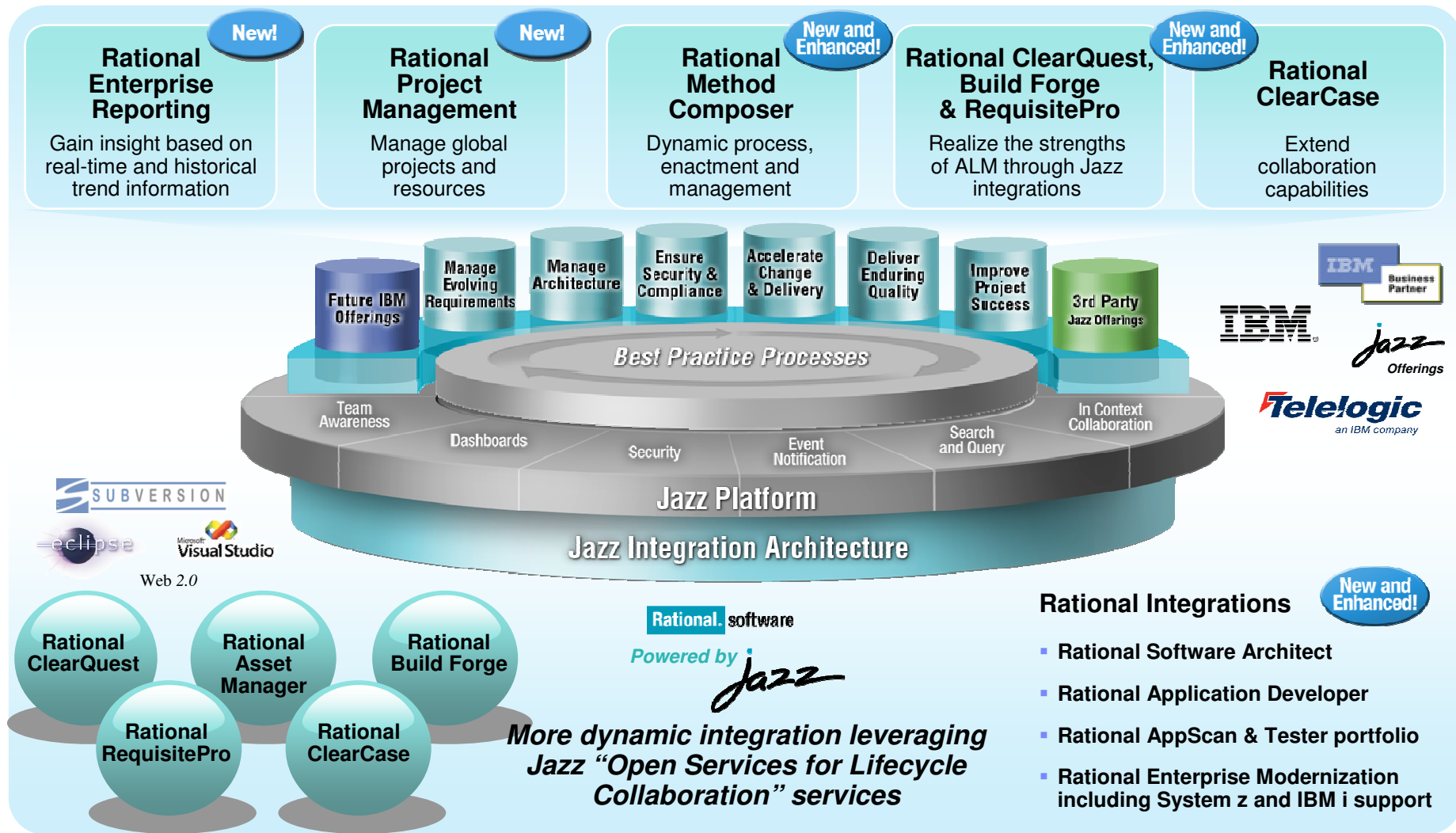
## Jazz in a nutshell

- **Open Services for Lifecycle Collaboration (OSLC) – Industry initiative around an Integration Approach based on REST principles**
  - ▶ Defines how servers can expose their resources to clients without imposing any implementation constraints
  - ▶ The goal is to enable interoperation between heterogeneous tools in a diverse market
  - ▶ OSLC is for the entire industry: competitors, partners, system integrators, open source projects, customers
  - ▶ Community interaction around resource definition at [open-services.net](http://open-services.net)
  
- **Jazz Integration Architecture (JIA) – Reference Architecture including Specification of Jazz Foundation Services**
  - ▶ JIA augments the notion of RESTful OSLC interfaces (for applications) with shared services (e.g., storage, query, admin, presentation, discovery)
    - Applications optionally use the Jazz Foundation Services (opt-in approach - may use many or few services)
  - ▶ JIA defines how Rational and our partners can deliver higher fidelity integrations by exploiting these additional services
  
- **Jazz Team Server – An implementation of Jazz Foundation Services**
  
- **Jazz Foundation – Jazz Team Server and toolkits to aid in construction of Jazz Applications**
  - ▶ Toolkits are optional, but make application construction easier by providing libraries and other aids to reduce development time, provide common appearance, and improve quality
  
- **Jazz.net – Portal for the Jazz Strategy**
  - ▶ Jazz Integration Architecture evolved at [jazz.net](http://jazz.net)
  - ▶ Jazz Foundation developed at [jazz.net](http://jazz.net)



# The road ahead

## Jazz offerings in 2009 and beyond





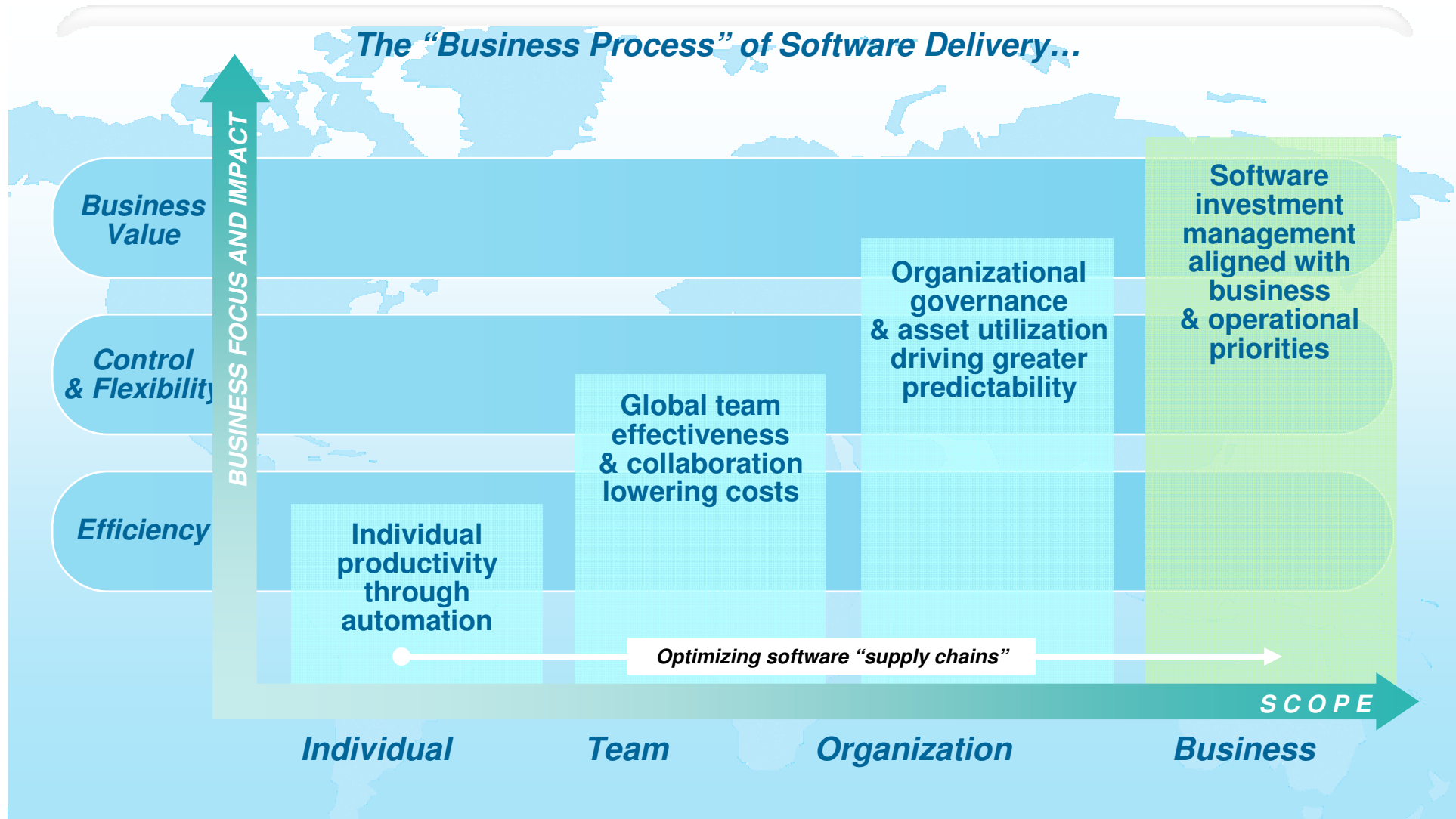
# Summary

**Rational**® software



# Software is a strategic business asset

The “Business Process” of Software Delivery...



## The focus for solutions delivery has shifted

1. Reducing Labour Rates
2. Process Maturity and Consistency
3. Rigorous Governance and Management

*Competitive Necessity*

- 
4. Asset and Service Reuse
  5. Increasing Levels of Automation
  6. Flexible Sourcing – component level
  7. Delivering Capabilities not resources
  8. Software as a Service

*Competitive Advantage*

As **REAL** As It Gets!



## What can the CIO do to optimise delivery

- Leverage information to make more intelligent choices about software assets.
- Work smarter, supported by flexible processes.
- Drive greater efficiencies through reuse and governance.
- Enable development and delivery environments that drive down costs by standardising on tools and capturing metrics.
- Make development and delivery more efficient, productive and responsive





**DEVELOP A  
SMARTER PLANET**

**Rational**® software





### Learn more at:

- [IBM Rational software](#)
- [Rational launch announcements](#)
- [Rational Software Delivery Platform](#)
- [Accelerate change & delivery](#)
- [Deliver enduring quality](#)
- [Enable enterprise modernization](#)
- [Ensure Web security & compliance](#)
- [Improve project success](#)
- [Manage architecture](#)
- [Manage evolving requirements](#)
- [Small & mid-sized business](#)
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