



| IBM Software Group

Innovation in software delivery

*Hot spots in architecture, business process
and complex change*

Rational. software

Jeff Henry, Director of Offering Management
IBM Rational Software

Innovation and Integration Around the World ...

Agenda

- Evolution of the Application Development Tools market
-> Software Supply Chain
- IBM Rational Software Delivery Platform



Rational. software

**Governing the business process
of software & systems delivery**

*Decades of proven process expertise
and customer success*

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Rational. software

**Governing the business process
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*Decades of proven process expertise
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The Shift: Intense focus on business outcomes



Align technology and business goals to enable flexibility and innovation



Manage value and mitigate risks via improved project management



Increase customer intimacy and knowledge to grow relationships and markets



Control costs and gain operational efficiency while meeting compliance mandates



Consume & integrate value in organizationally diverse environments



What's different today?

2007 and beyond: Shifts in software delivery

What we're hearing...

"2/3 of our projects span multiple business units"

"People knew it was a train wreck; no one could see what to do."

"We've done two acquisitions in six months and we can't lose customers"

"We run on the Web – and we run fast — new code makes us really nervous"

"We have to go where the best talent is, but we have IP and compliance realities"

What we're seeing

- Increasingly diverse and cross organizational global project teams
- SOA, Web-centric & Web 2.0 enabling new business models
- Popularity of Agile development and social networking models
- Interest in replicating the proven models of open, community-governed software delivery models

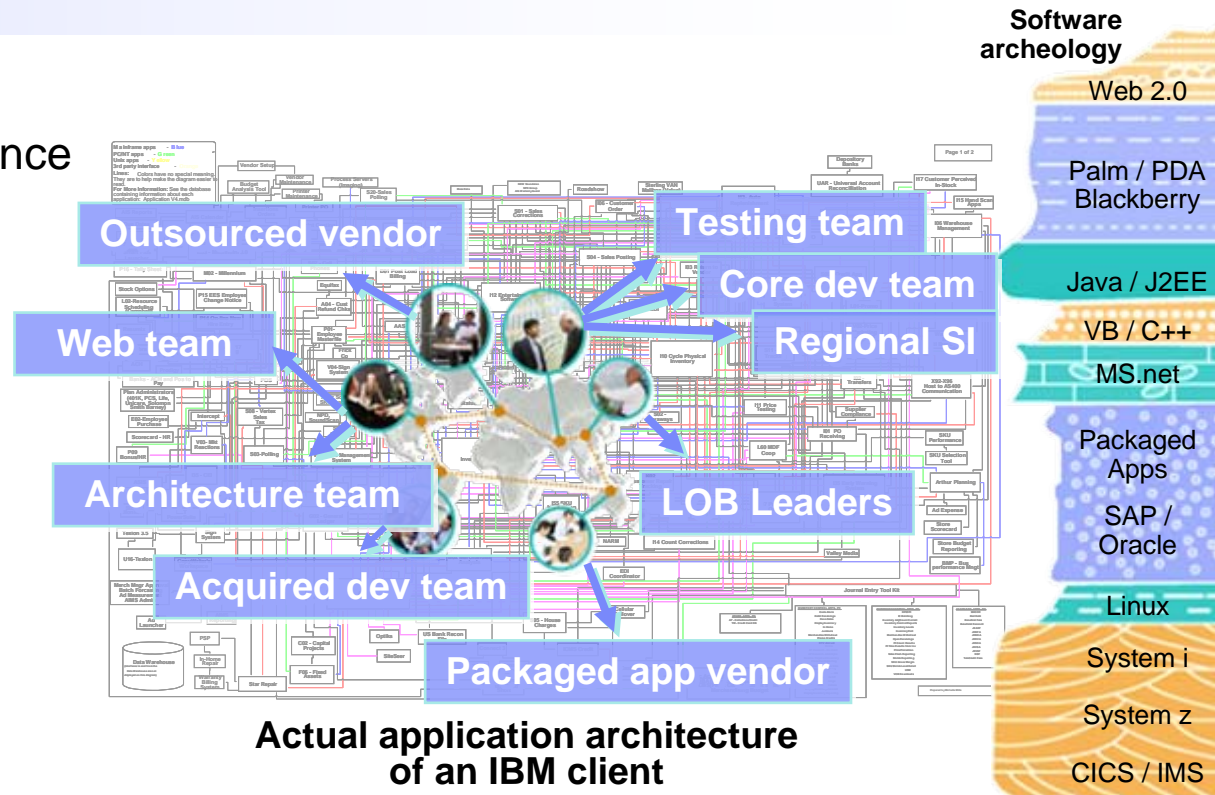
Performance of people & assets in software supply chains



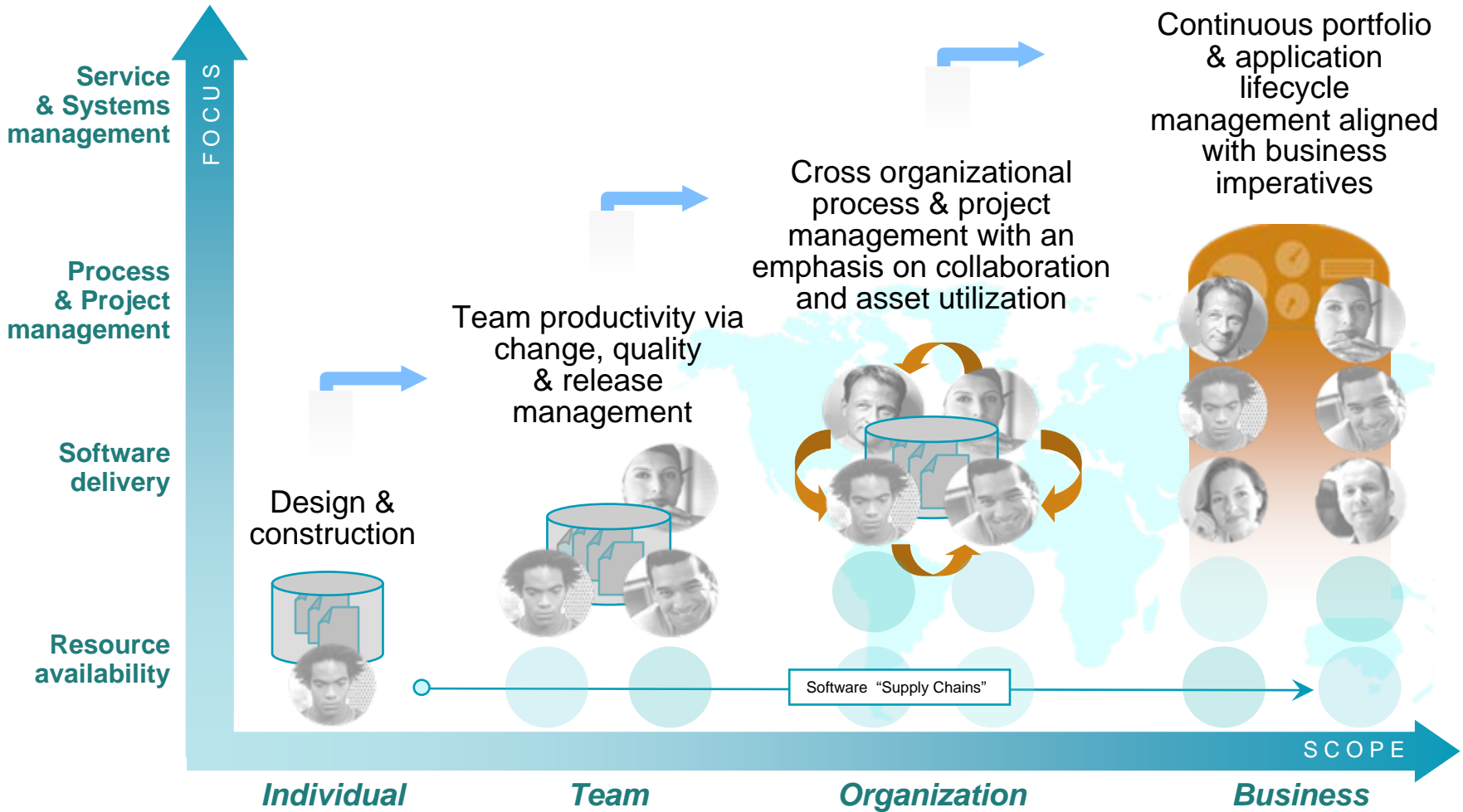
“Whether designing an airplane, assembling a motorcycle [or delivering software]... the ability to integrate the talents of dispersed individuals and organizations is becoming the defining competency for managers and firms.”

-- Tapscott & Williams, Wikinomics, Copyright 2006

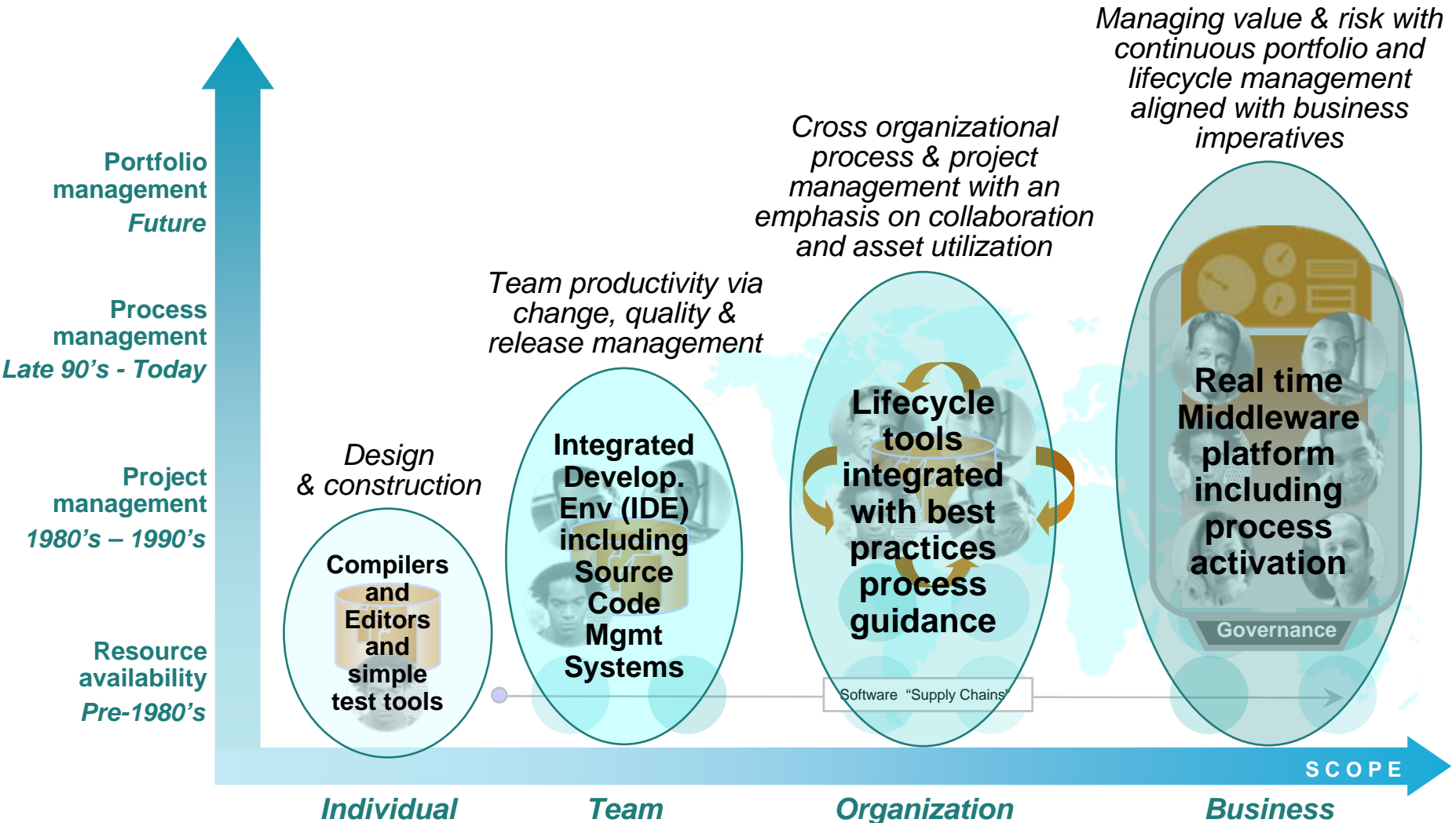
- Lack of architectural governance
- Layers of disjointed, poorly managed software assets
- Contributors are everywhere with diverse skills, roles
- Growing complexity associated with IP & regulatory mandates
- More formal IT & business service level agreements



Maturing approaches to software delivery



Customers are maturing their approach to software delivery



Reshaping the face of software development

Open communities of interest

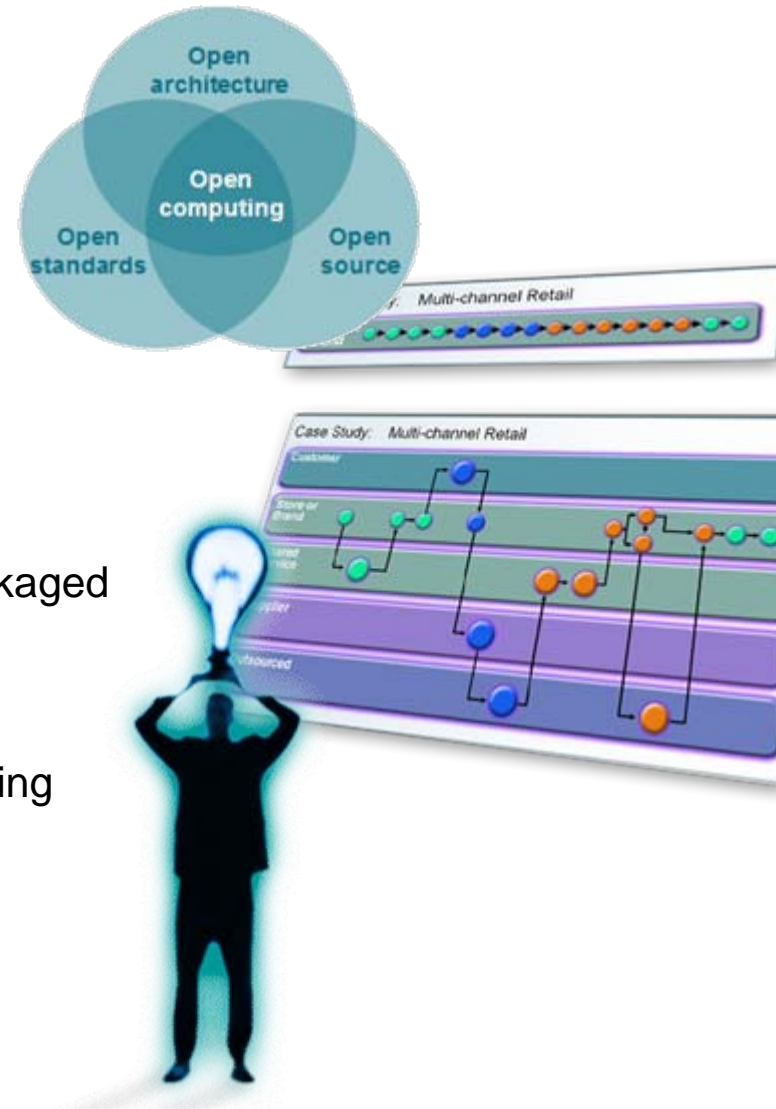
- Integrate more often and more easily
- Emergent 'critical mass' standardization
- Leverage community effects from open computing and social networking

Modularity

- Exploit SOA as a key enabler of business flexibility
- Focus on architecture and asset reuse – structure
- Software supply chains – custom, outsource and packaged

Empowerment and innovation

- Passive governance – minimize chaos while maximizing individual and team decision rights
- Continuous alignment with business objectives with accountability in delivery
- Maximize value of knowledge-based workforce



Fundamentals of the IBM Rational software strategy

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Enabling governance

- Maximize value and flexibility of the knowledge-based workforce
- Minimize chaos while maximizing individual decision rights

Delivering flexible architectures

- Rethink modularity and granularity of software
- Focus on “granular decomposition” for re-composition
- Enable enterprise modernization

Leveraging communities

- Leverage community effects from Open Source, Metcalf’s law, social networking



GOAL:
*Delivering value efficiently
and effectively
in distributed organizations*

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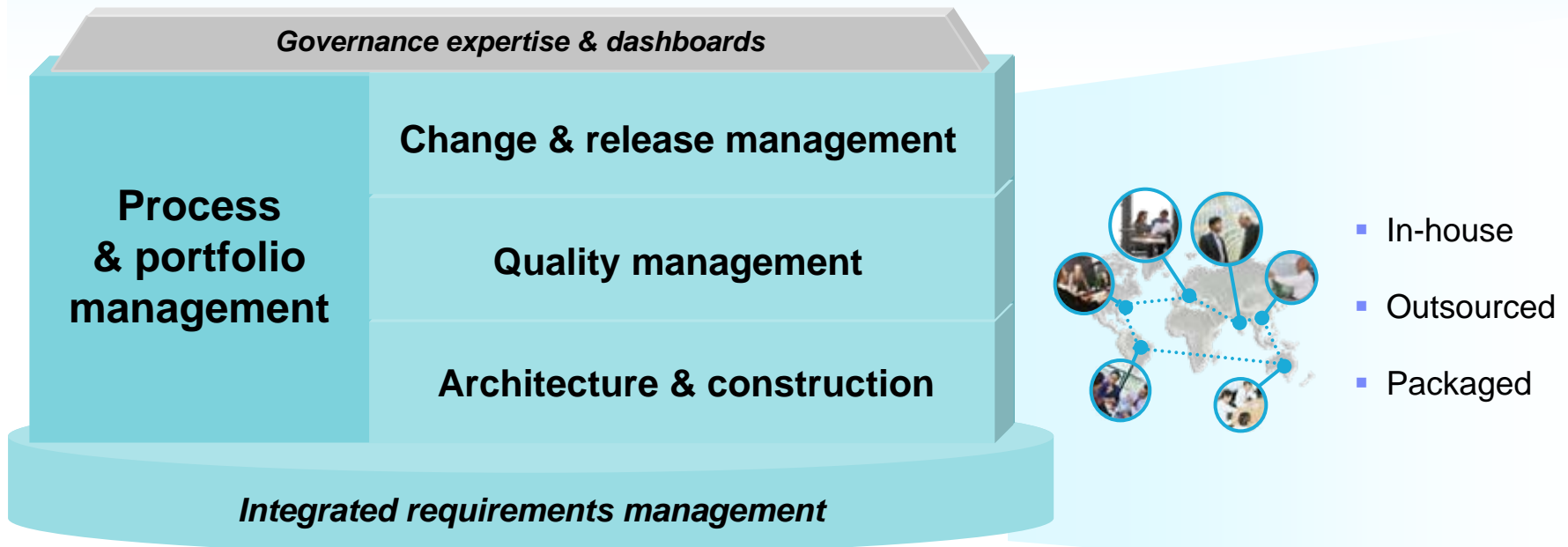
*Decades of proven process expertise
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IBM Rational Software Delivery Platform

What we offer

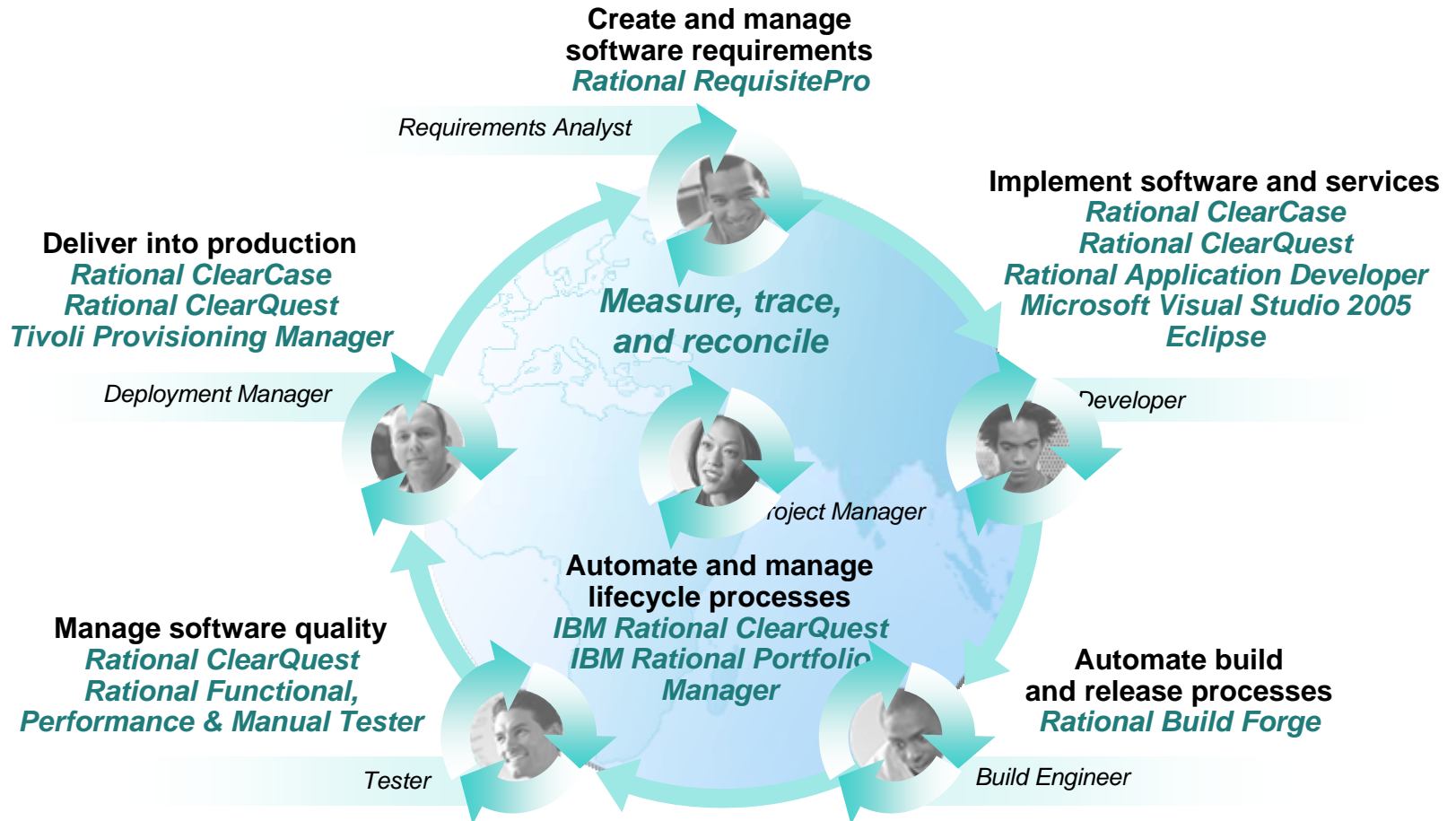
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Process design and implementation best practices based on a market leading solutions delivery platform



Change and release management

Improving effectiveness with process automation, build management, reporting, and traceability



Change and release management are critical elements in maturing software supply chains

Govern outsourcing to deliver the goods

- An enterprise which requires world class governance can manage distributed teams, people and plans
- Balance the risks of global, collaborative application delivery
- Overcome cultural obstacles to collaboration



Govern outsourcing



Deliver outsourced work is the core competence

- Implement development process which reflects internal standards and meets client needs (GSI, Centralized Dept, etc.)
 - Respect/reflect customer specific deliverables
 - Efficient change management with customer



Deliver outsourced work



Distribution in geo and across geo

- A globally growing enterprise can scale infrastructure and ensure anytime, anywhere access to our environment
- Deliver high levels of security and access control



Scale distributed development



Leverage talent from multiple locations

- A firm venturing into organizationally distributed development can provision tools, workspaces, assets and access
- Integrate team platforms and workflows; establish team collaboration

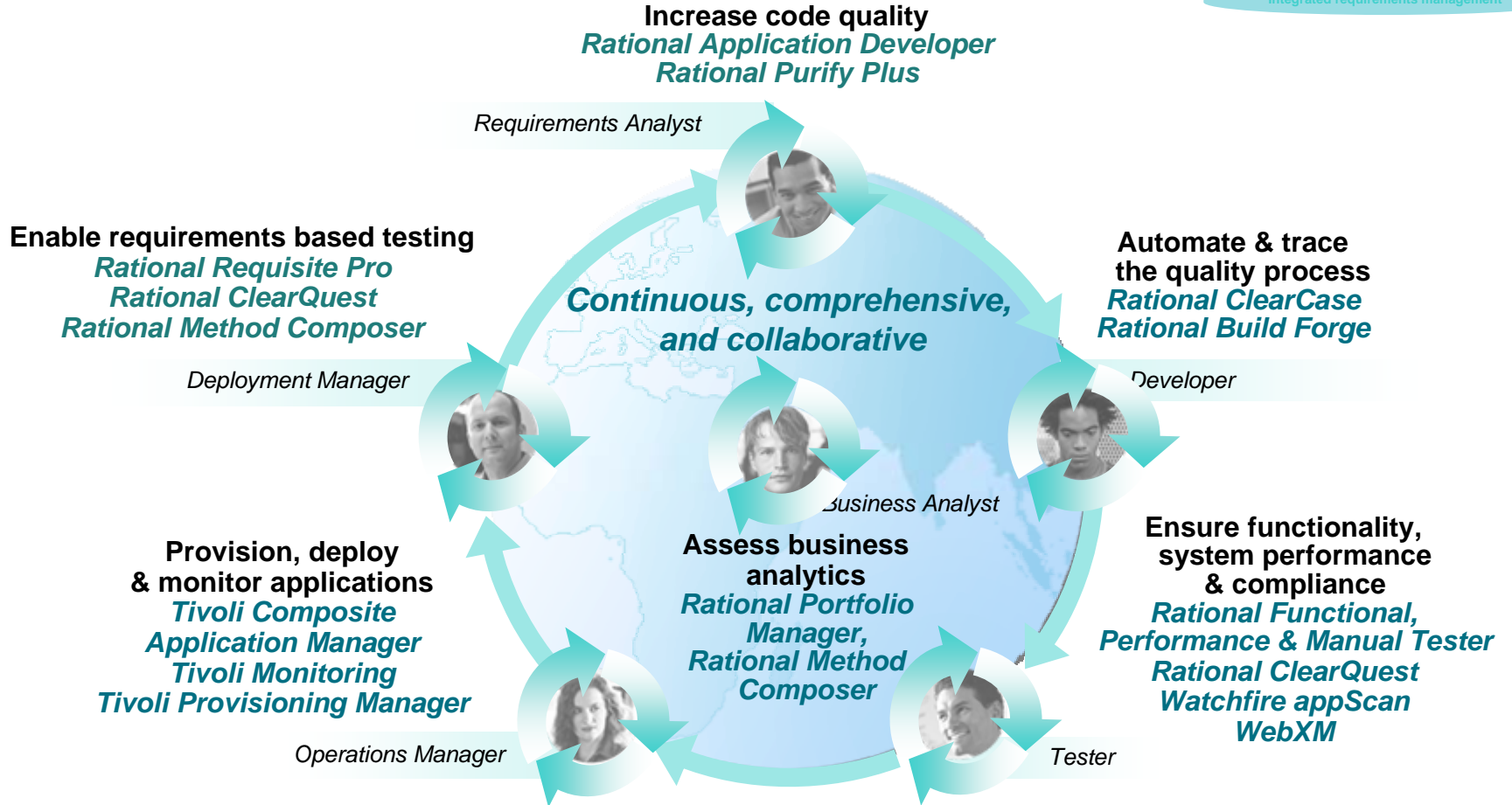
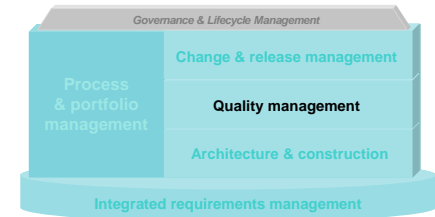


Establish distributed development environments



Quality management

Govern quality across the delivery lifecycle



Quality management is a critical element in governance and risk management

Demonstrate the value of development to the business

- Match investment profile with risk appetite based on business drivers
- Continuous portfolio management
- Financial oversight and control
- Mitigate operational risk

➔ Measure & Deliver Business Value



Optimizing the development portfolio

- Assess the impact of high-risk development through qualitative methods
- Eliminate redundancies and enable efficient reuse
- Provide the infrastructure for Bayesian Analysis

➔ Treat Development Assets as Investments



Attain value from agile programs

- Risk-based iterative project planning
- Real-time measurement and estimation of value delivery
- Automated tracking and monitoring of project execution

➔ Equip Development Managers to Focus on Results



Improve productivity – free resources to focus on innovation

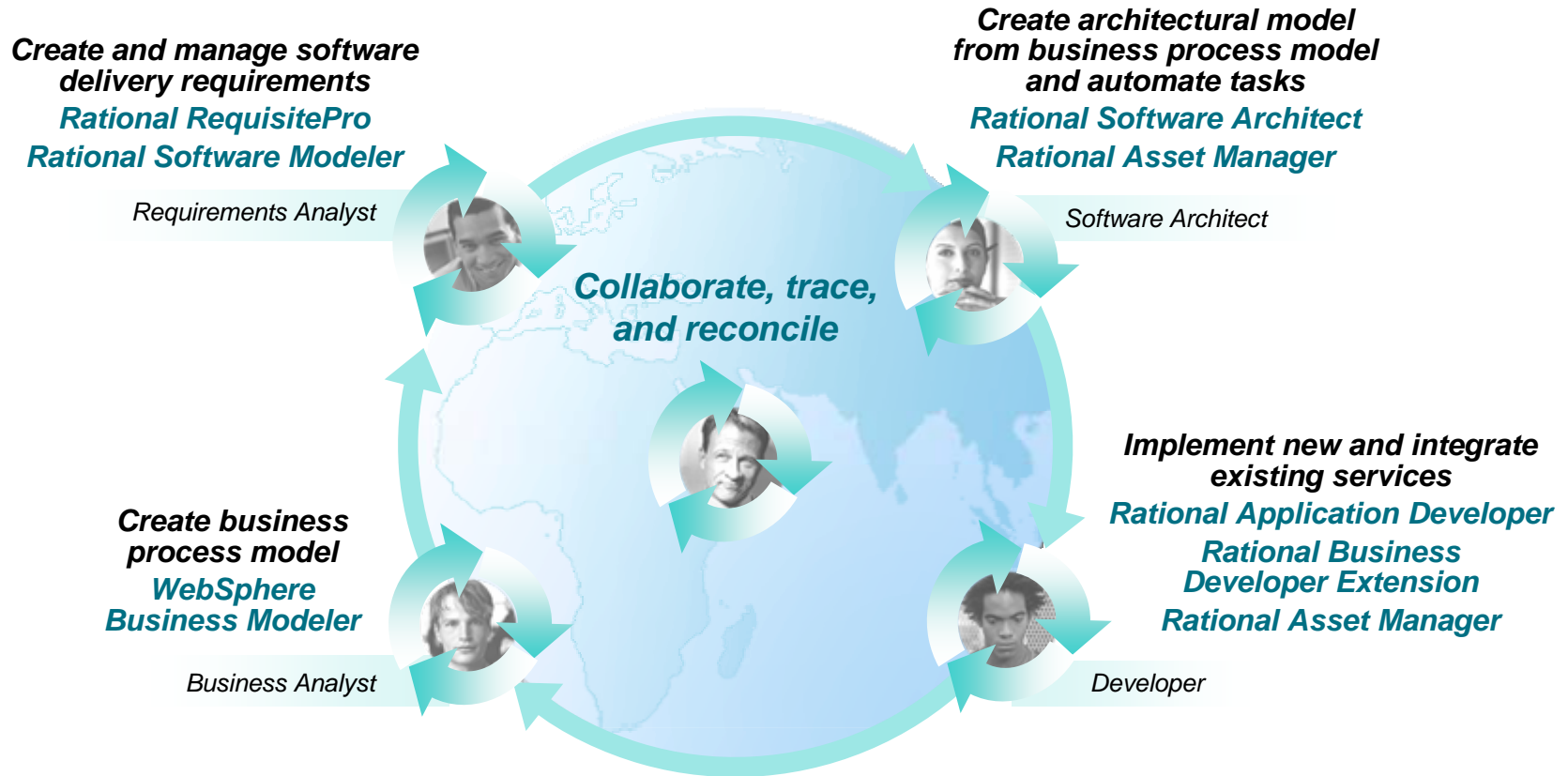
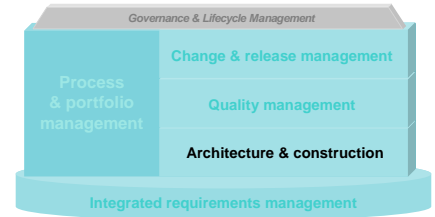
➔ Establish Visibility and Control

- Effective metrics – measures that drive desirable behavior
- Automated audit-ability and validation



Architecture and construction

Models, designs, and rapidly builds resilient architectures for SOA, systems, and applications



Architecture and construction are critical elements in Service Oriented Architecture

Deliver business strategy more rapidly through an SOA

- Enterprise architecture mapping business strategy to process, data, and services
- Delivering and governing composite applications

➔ **Business Driven Development with Composite Business Services**



CardinalHealth



Optimize specific business processes and services

- Examine existing processes – requirements for change – Optimize for cost, responsiveness, throughput
- Which new services do I need?... To support the new / changed processes?
- Can I use best practice processes?
- Can I modify existing services?

➔ **Service Modeling: Optimize IT Processes**



TeleManagement
FORUM



Apply standards based interfaces to re-use existing applications

- “Wrap” an existing application with a standard interface
- Use standard approaches to connect to a packaged application

➔ **Service Exposure: Solve immediate integration problems – bottom up approach**



MORPHEUS
eBusiness Solutions

Challenge: *Inconsistent and varying levels of support and service across project lifecycle*

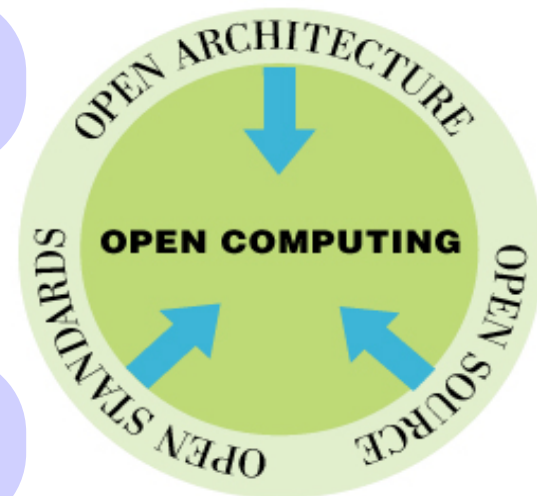
Scenario: *IT project manager responsible for a team building mission critical applications needs enterprise class support for his enterprise.*

Customer would like to take advantage of the innovation provided by open source to remain at the forefront of their industry, but is wary of the lack of support options for the organization.

⊗ *“I’m reluctant to build mission critical applications with tools that have inadequate support & accountability”*

⊗ *“How do I ensure quality support for my open source environment?”*

⊗ *“How can I be sure that any bugs I find will be fixed in a timely manner?”*

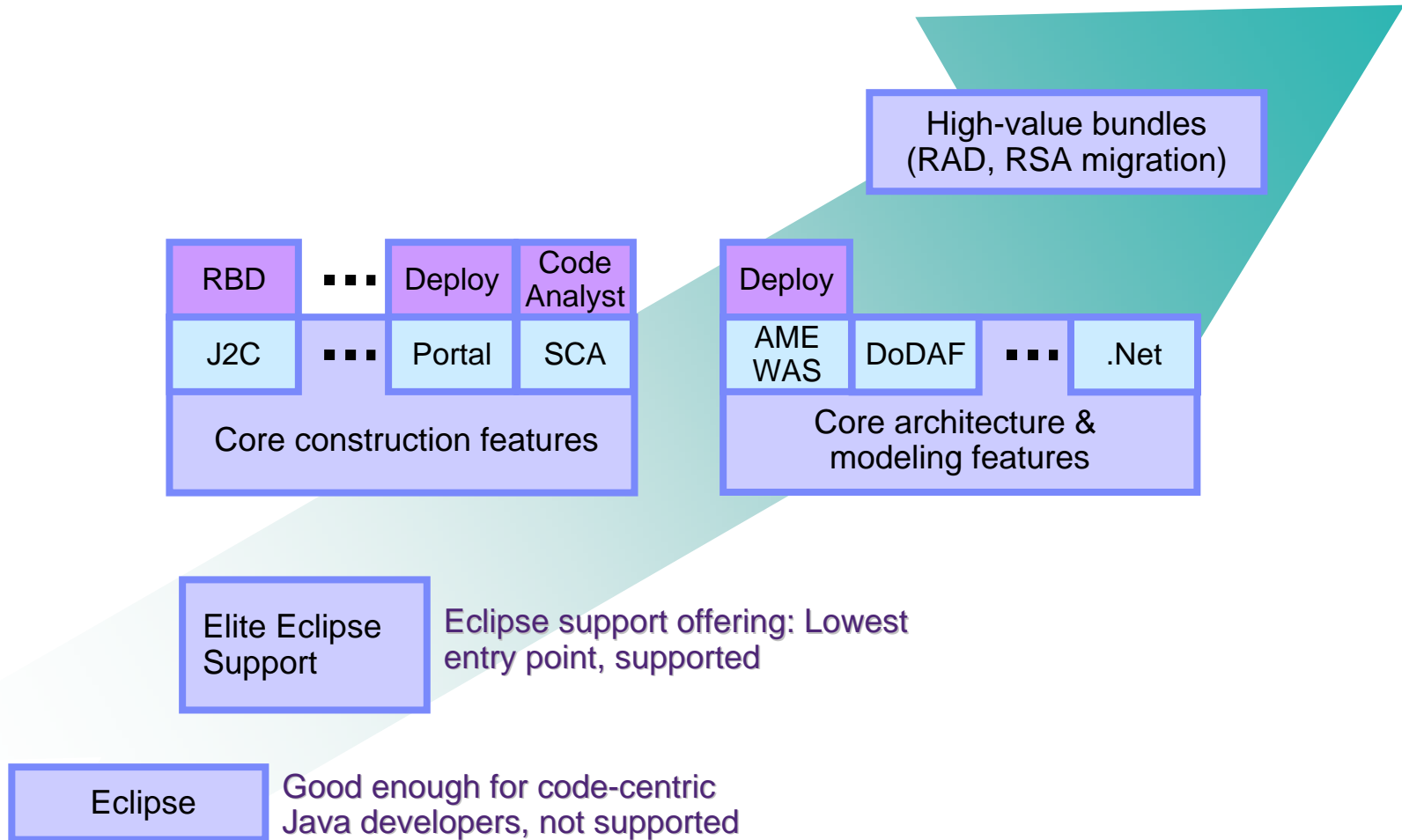


Solution: Consistent Enterprise level support for open source IBM Rational Elite Support for Eclipse

- ✓ **Broad commercial vendor support for latest release of Eclipse**
 - Support-only offering
 - Supports customer's own Eclipse environment
- ✓ **Flexibility to rely on the open source community for supporting expert users on the base Eclipse platform, or purchase commercial support for new and emerging skill level staff.**
 - Phone support at no additional cost
 - Defect Fixes provided via Eclipse.org
 - Renowned IBM product support
- ✓ **Reduces in-house support costs**
 - Less costs associated with training developers new to Eclipse
 - More time for developers to build business critical applications instead of time spent on eclipse support/debugging

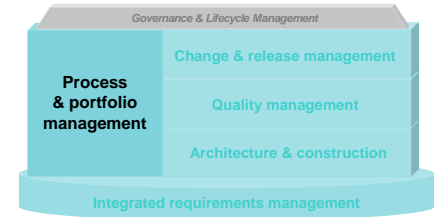


Consumable Packaging Direction



Process and portfolio management

Align business goals, best practices & projects for improved productivity and predictability



Process, portfolio management and reporting are critical elements in governance and risk management

Demonstrate the value of development to the business

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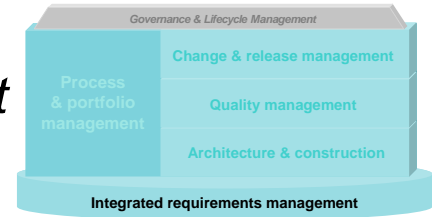
➔ Establish Visibility and Control

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Integrated requirements management

Improve the communication of project goals, reduce project risk and increase the quality of applications before deployment



Create and manage software requirements and use cases
Rational RequisitePro

Develop data and architectural models from business process models and software requirements
Rational Software Architect
Rational Data Architect

Create business process models and business requirements
WebSphere Business Modeler
Rational RequisitePro

Continuous, comprehensive, and collaborative

Software Architect

Business Analyst

Link requirements with project plans, financials and status
Rational Portfolio Manager

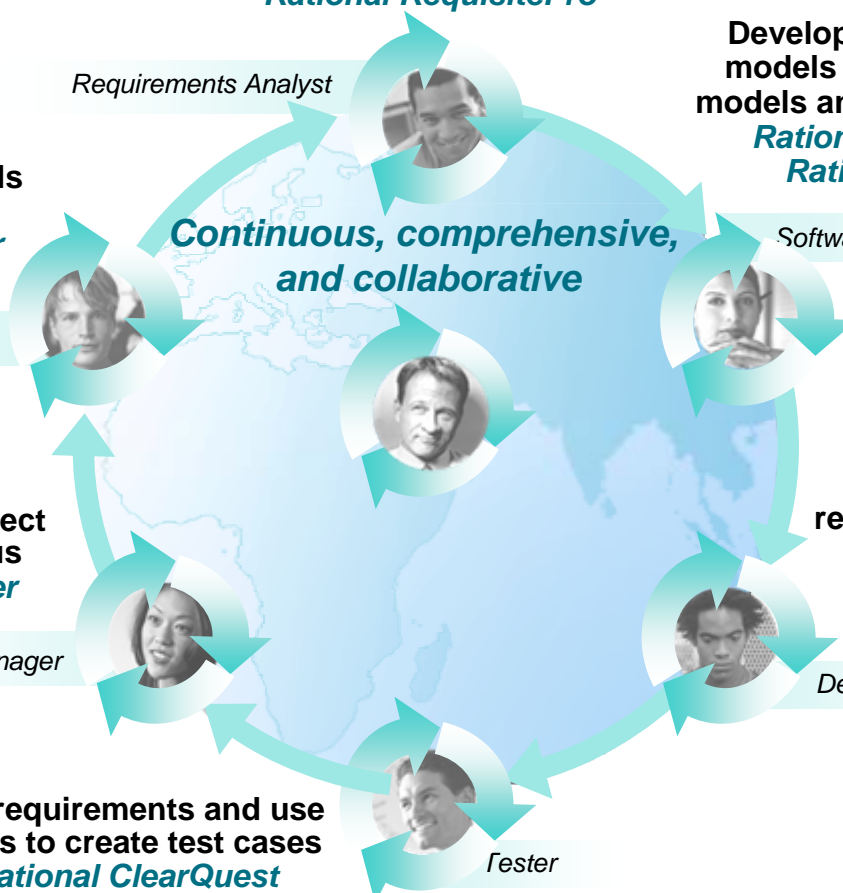
Use models and requirements to write code
Rational Application Developer

Project Manager

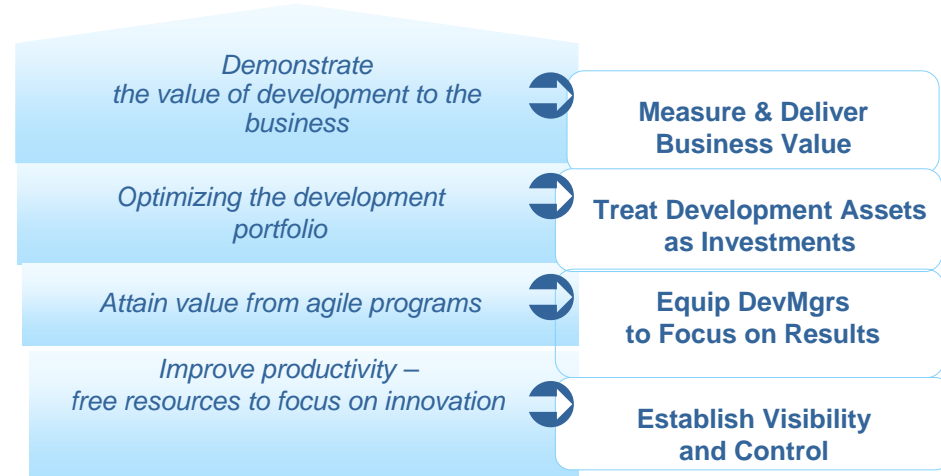
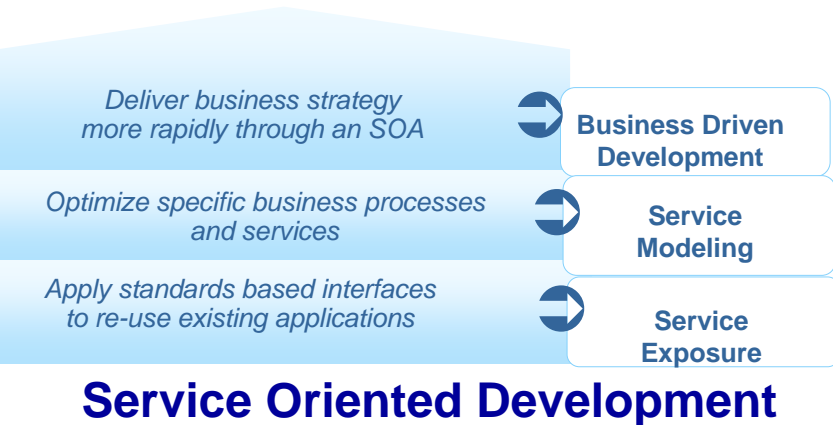
Developer

Use requirements and use cases to create test cases
Rational ClearQuest

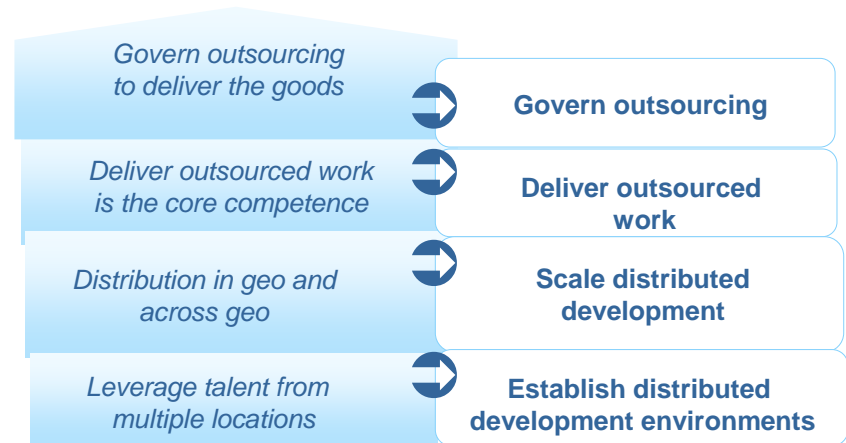
Tester



Integrated requirements management is a foundational element to
Service Oriented Architecture, Governance & Risk Management, and Distributed Software Supply Chains



Governance & Risk Management



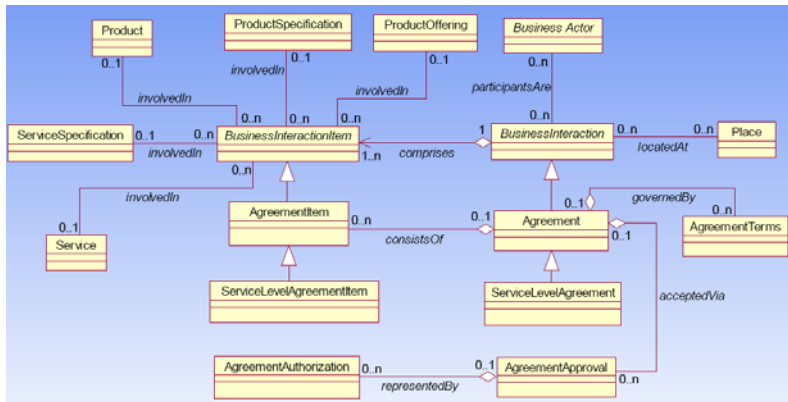
Distributed Software Supply Chains

Optimizing business processes

Design Win: Use of best practices for Telecom SOA transformations

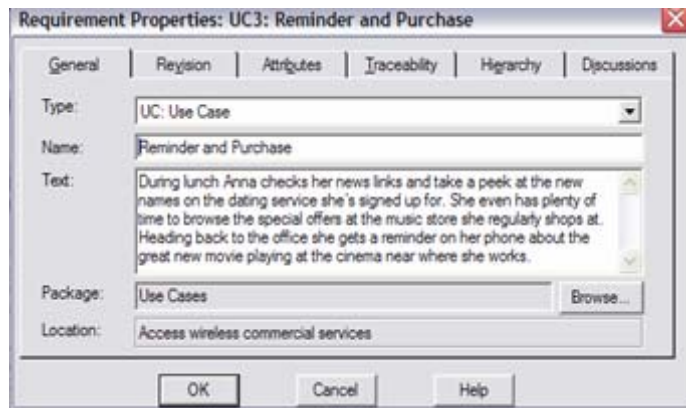


Helping the TeleManagement Forum develop and publish best practices frameworks



Shared Information/ Data (SID) Models published in Rational Software Architect

Service Delivery Framework workgroup standardization on Rational RequisitePro for requirements management



Extending our tooling to support the next generation of communications applications

Session Initiation Protocol (SIP) extensions:



IP technology used to support all types of communications traffic



SIP Modeling

SIP Development

SIP Testing

VoIP & Video conferencing, messaging, etc.

Instant Messaging

Mobile music, video, TV

Fixed-Mobile Convergence

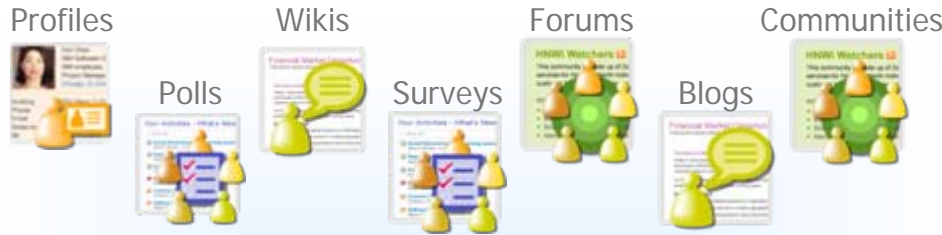
Unified Communications

IPTV

Next gen contact centers

Telecom Service Innovation Factory & Web 2.0 Service Creation

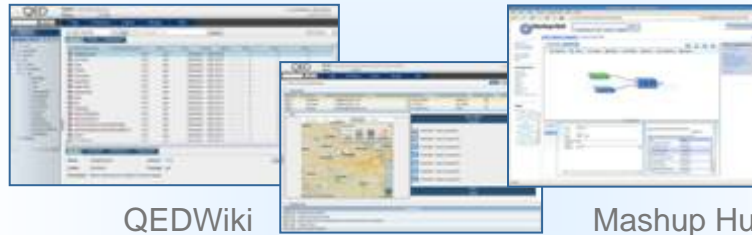
Community Tools



Lotus software

IBM Research

Widget Search & Mashup Tools



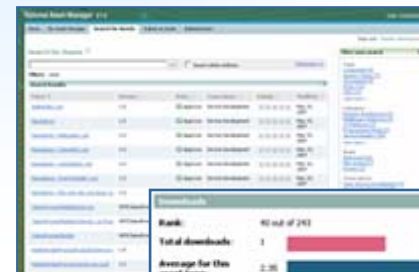
Information Management software

Widget Publication

IBM alphaWorks



Requirements Capture & Service Definition

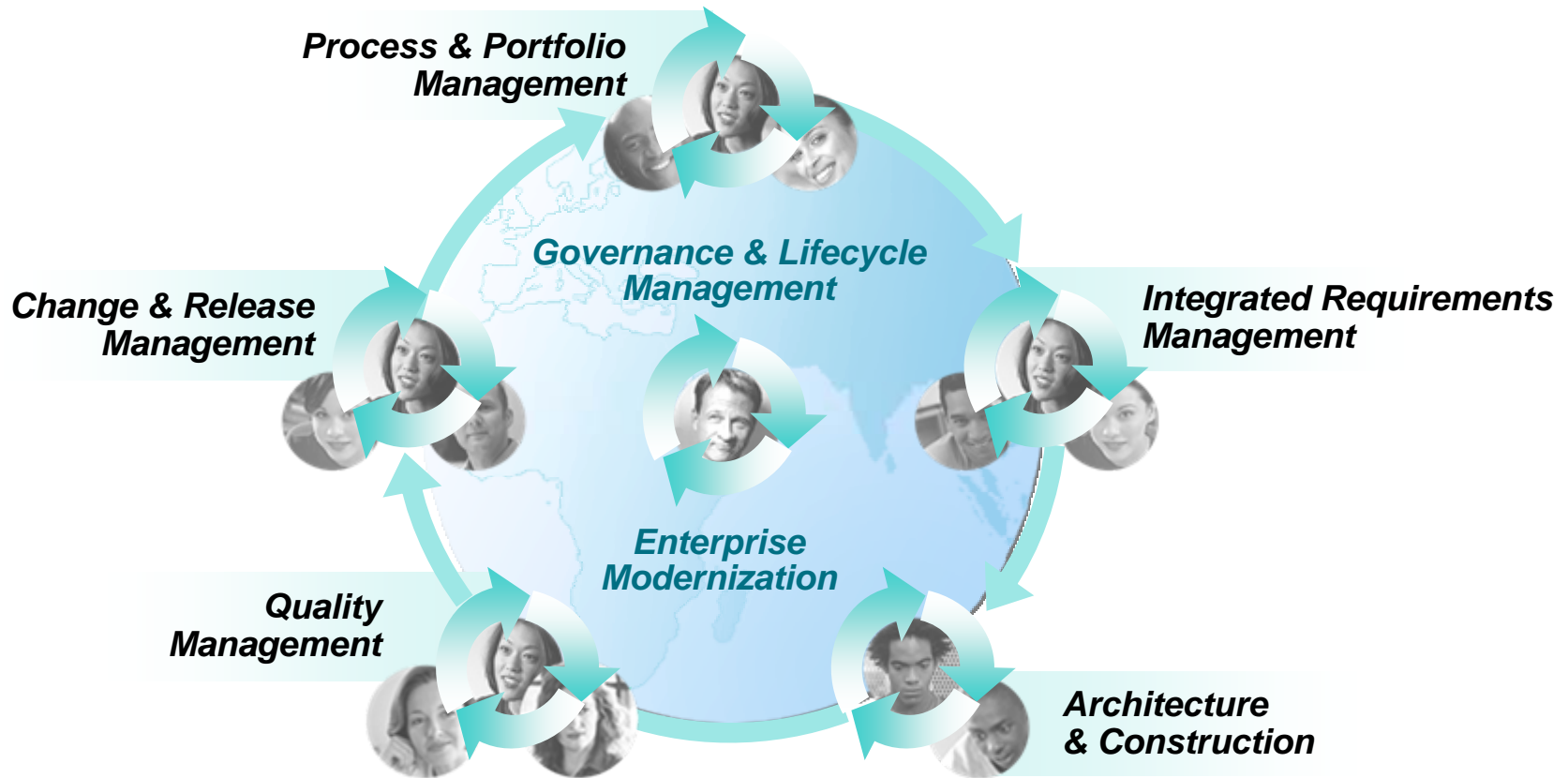


Web 2.0 Asset Management

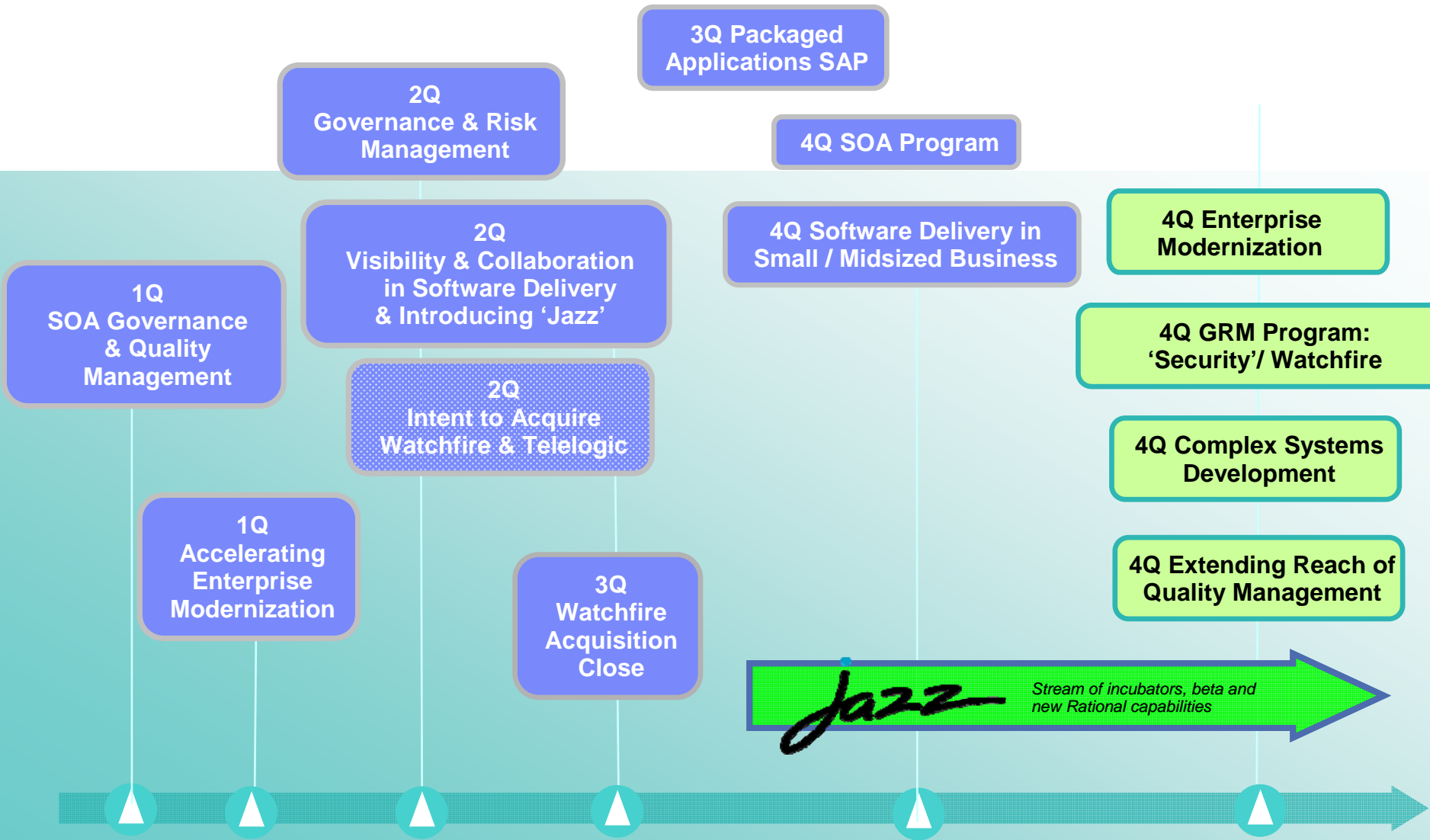
Rational software

Application Lifecycle

Governing the business process of software & systems delivery

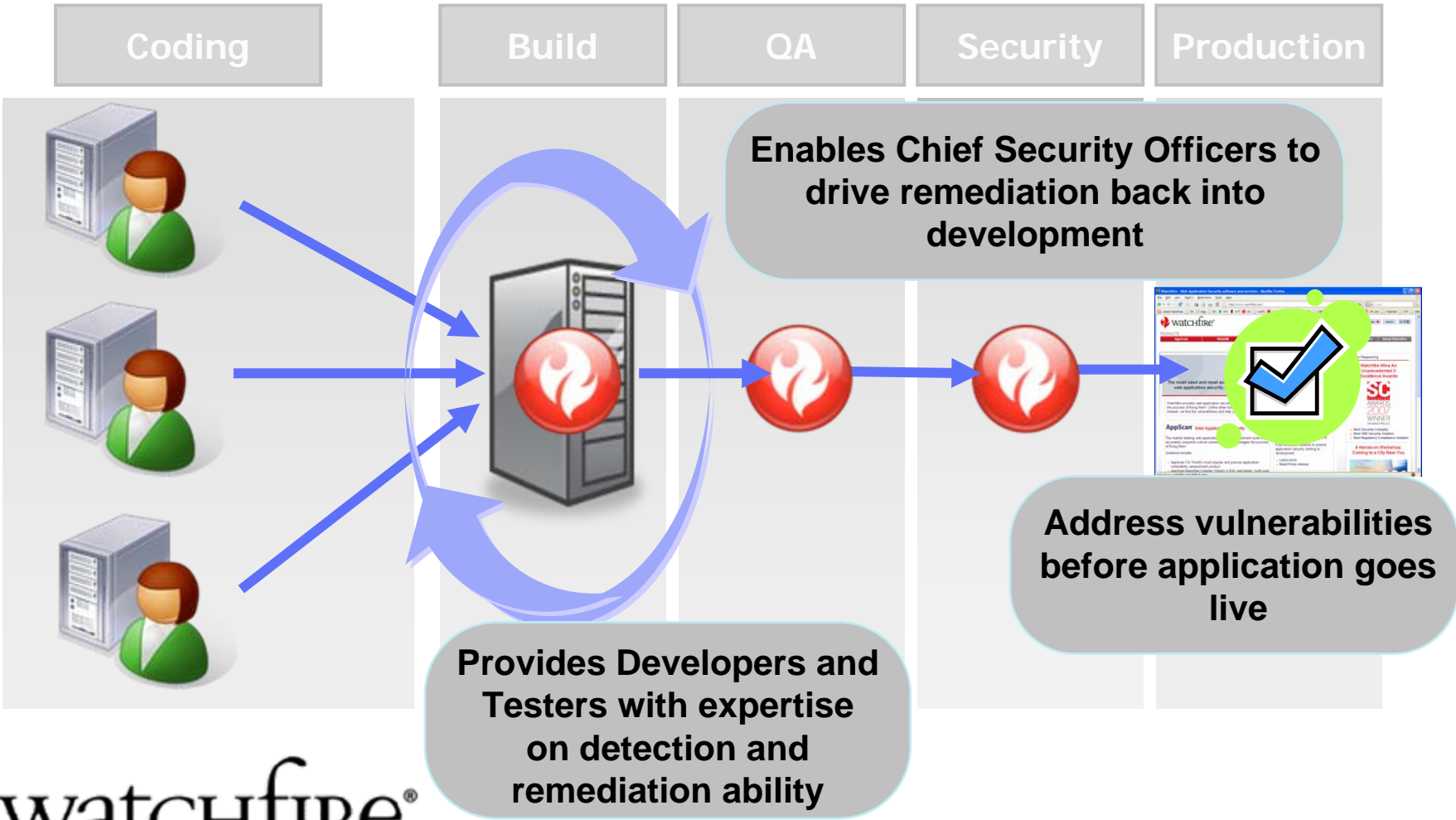


2007 Rational Software Value Roadmap



Q3
Watchfire
Acquisition
Close

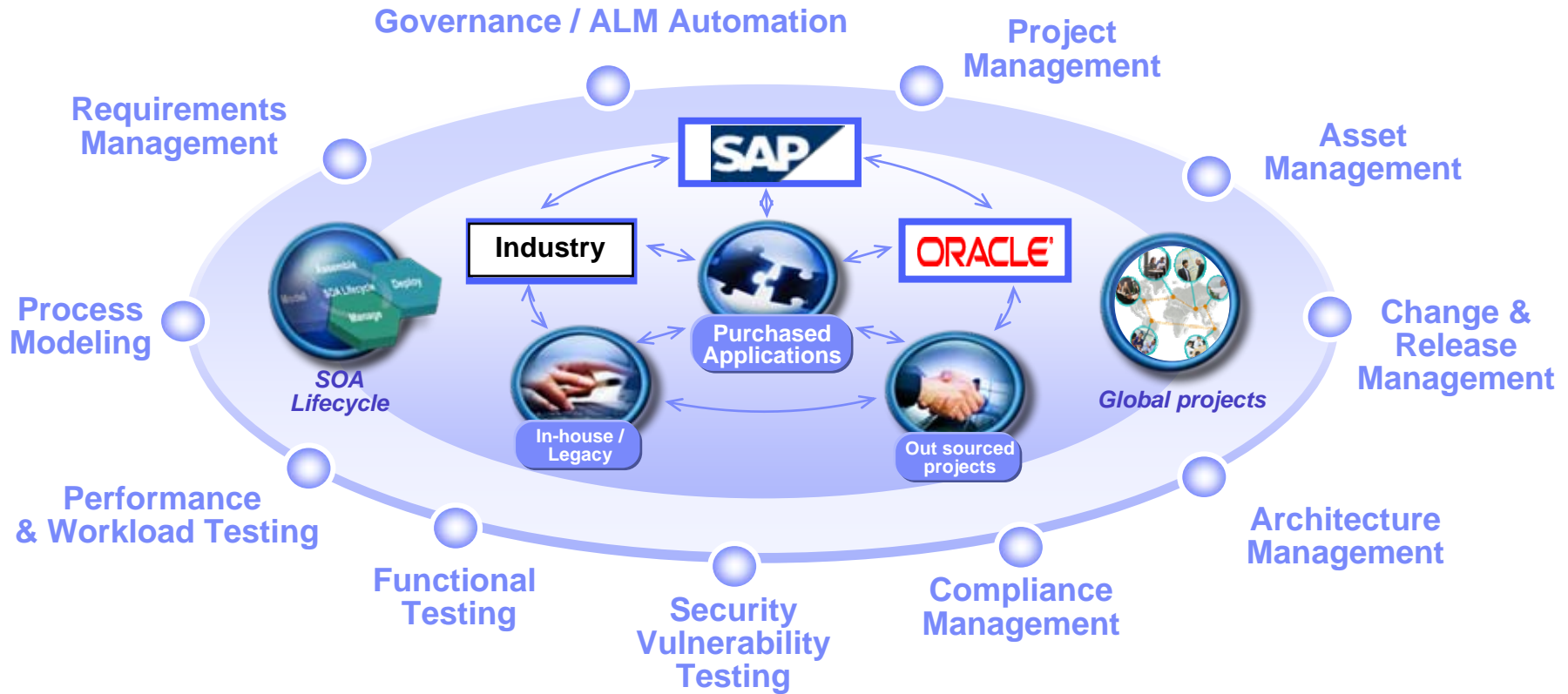
Detect Vulnerabilities Before Release



Software Delivery Challenges with Packaged Applications

3Q07 Packaged Applications SAP

Customers are taking an increasingly holistic approach to managing the lifecycle of purchased & in-house application projects



A consistent, integrated Application Lifecycle Management capability spanning complex application environments

Rational Participation in Global SMB Launch Activities

4Q07 Software Delivery in
Small / Midsized Business

Alignment w/ IBM Express Advantage

[BuildForge Express](#)

- Rational's first express offering! Build Forge Express
- Synergy and benefit of aligning with GSMB and the Express program
- Engaging a much broader set of IBM sellers than simply brand sales specialists
- Commitment to broader set of Express offerings and alignment with IBM GSMB

Quality Management & Security for SMB



- Watchfire – logical extension in QM around performance (RPT) and functional testing (RFT) into area of Web & application security, business policy enforcement and compliance management in SMB
- SOD of AppScan (single server) for Express– well suited for mid-market, and AppScan OnDemand (SaaS)

System i Optimized Application Delivery & Enterprise Modernization for SMB

- System i is pervasive across SMB – estimated 245,000 customers and 450,000 installed worldwide
- IBM underscored commitment to System i by transferring many of host AD solutions to Rational
- System i Eclipse plug-ins for CC / CQ / BF for the WebSphere Development Studio client for System i
- Enterprise modernization for System i – replaces 5250-based (green screen) development tools
- WebFacing Deployment Tool with HATS Technology (WDHT): For businesses w/ 5250 apps that need to quickly extend reach of apps – modernization solution for System i market

Rational's Business Partner Ecosystem to reach and serve SMB

- Highlight Rational business partner solutions to SMB customers
- Accelerate evolving BP Channel to Solution Providers capable of OI & OO ownership
- Expand BP ecosystem through targeted recruitment and activation
- Leverage big IBM: exploit key IBM partner programs for Rational BPs: SVI, SME, VIC, PWIN

The future: Team Concert – Powered by

Jazz

- Team Concert: collaborative development environment: optimized for teams in midsized businesses; includes enhanced Eclipse development environment
- Flexible, low footprint application lifecycle management offering for Agile development teams
- Currently in beta

IBM Rational Team Concert

jazz Stream of incubators, beta and new Rational capabilities

Secure Eclipse & Web 2.0 clients



Rational. software

Globally distributed projects



LIFECYCLE SERVICE INTEGRATION MIDDLEWARE

Real-time collaboration and project information "in context"

Adaptive process enactment

Dynamic artifact relationships

Powered by *jazz*

Rational. software
Method Composer

Agile Plug-ins (optional)

Rational. software
Asset Manager
Portfolio Manager
Performance Tester

Rational. software
ClearQuest
ClearCase

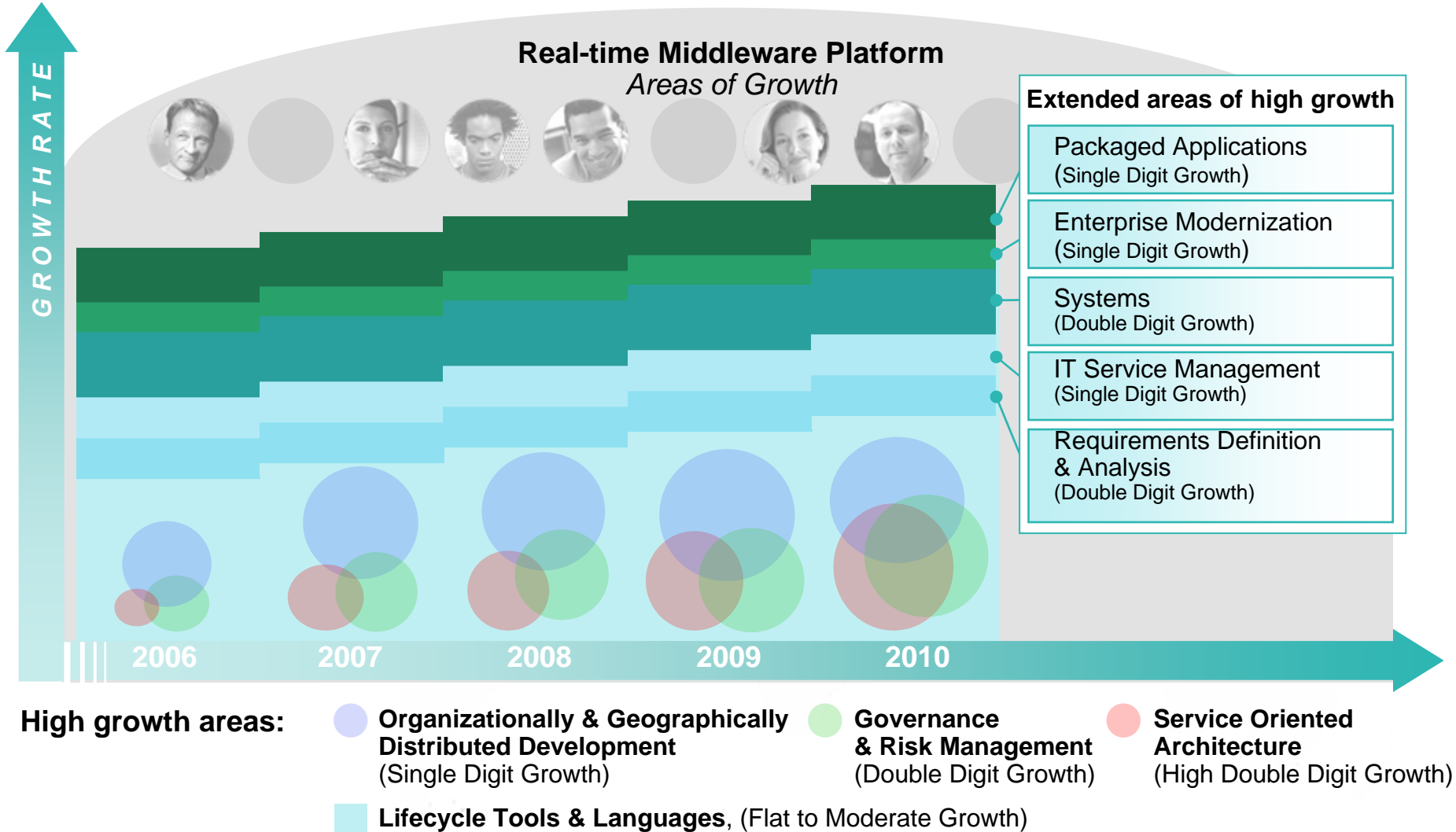
*Beta 2

Rational. software
New Products for Agile Development


*Incubators

WebSphere.
Lotus. **Tivoli.**
etc ...


Software Supply Chain: Adjacent Market Opportunities



Extending the traditional application development market into high growth areas

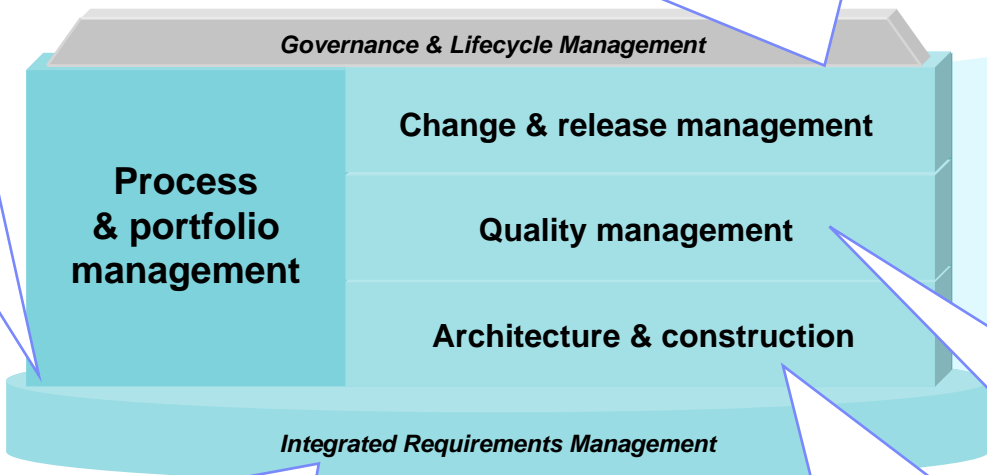



Requirements Definition & Analysis “Since we began using IBM RUP® and IBM Rational tools, we have reduced development time by at least 25 percent.” - Odila Rubin de Ayala, vice president of information technology, RCTV




Complex Systems “The Rational tool set has significantly increased communication across the IPT, providing a universal understanding of the project, reducing risk and keeping the development on track. The IPT is achieving its goals to meet CMMI Level 3 and DOD 5000 conformance.” -Ric Soard, deputy project manager, ICAS

- Extended areas of high growth**
- Packaged Applications (Single Digit Growth)
 - Enterprise Modernization (Single Digit Growth)
 - Complex Systems (Double Digit Growth)
 - IT Service Management (Single Digit Growth)
 - Requirements Definition & Analysis (Double Digit Growth)

Packaged Applications
Used **Rational ReqPro** to create a requirements management solution enabling them to integrate SAP® and in-house heterogeneous processes more effectively



Enterprise Modernization
“We’re finding that we can very rapidly go into existing COBOL code and extract the logic around certain business objects.” - Gary Free, senior systems consultant, Highmark

Wyeth

Service Management
Used **Rational AppScan** and **Rational Policy Tester** to ensure that 350+ global websites are secure and in compliance with rigorous internal and global legal regulations





Learn more at:

- [IBM Rational software](#)
- [IBM Rational Software Delivery Platform](#)
- [Process and portfolio management](#)
- [Change and release management](#)
- [Quality management](#)
- [Architecture management](#)
- [Rational trial downloads](#)
- [Leading Innovation Website](#)
- [IBM Rational TV](#)
- [IBM Rational Business Partners](#)

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