The IBM Rational Software Development Platform

An overview

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Agenda

- The Challenge
- Software Development and SOA
- Rational Software Development Platform
- Conclusions
Leveling the global playing field
Software delivery challenges for On Demand Business

- Responsiveness as a key competency
- Effectiveness of people as a critical success factor
- Revenue growth with cost containment

On Demand Business focus

- Keeping software projects aligned with changing business priorities
- Delivering better business results within the constraints of current investments and skill sets
- Effectively managing business and technical risk

Software delivery challenges

1 IBM Rational research, November 2005
Trends that impact software and systems development

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Geographic distribution of business

*The new norm*

- **Work aligned to markets and customers**
  - For domestic growth and global reach

- **Evolution of right-sourcing:**
  - From outsourcing of non-critical IT
  - To better sourcing of integral processes (e.g., call centers, hosting)
  - With cost-effective access to talent (near-shore, off-shore)

- **Leveraging distributed development:**
  - Distributed components
  - New models for modernizing applications and architectures (software factories, industry-specific componentization, open source)
Accommodating compliance

The new necessity

- **Impacts every level of business process**
  - Organizational, functional, asset

- **Organizational level**
  - Management reporting, audit support
  - Sarbanes Oxley, HIPAA, 21CFR11
  - Basel II, EASHW

- **IT, systems and product level**
  - Project and portfolio accountability
  - ITIL, COBIT, COSO
  - ISO 900x, Six Sigma

- **Development compliance level**
  - Change management of assets, traceability
  - CMM/CMMI, RUP, DODAF
Open computing
A new route to collaboration and innovation

- **Open standards**
  - Improve data sharing by simplifying integration of disparate technologies

- **Open architecture**
  - Increase collaboration by easily extending business processes

- **Open source**
  - Promote innovation by leveraging community development
Modular systems

Greater flexibility

- **Maximize investments:** *Reuse components*
  - Leverage existing assets and investments
  - Avoid rip and replace

- **Increase flexibility:** *Interoperable systems*
  - Connect and share business components
  - Easily distribute business processes

- **Accelerate initiatives:** *Scalable and agile*
  - Add capacity or functionality quickly
  - Scale technology based on business demands
  - Increase business process efficiency—globally

*Today, service-oriented architecture (SOA) takes business process automation to the next level*
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The SOA Lifecycle

- Discover
- Construct & Test
- Compose

- Gather requirements
- Model & Simulate
- Design

- Assemble
- Deploy
- Manage

- Financial transparency
- Business/IT alignment
- Process control

- Integrate
  - People
  - Process
  - Information

- Manage applications & services
- Manage identity & compliance
- Monitor business metrics
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Poor visibility, lack of cohesion across business and technology domains

**Business View**
- Poor visibility and governance over IT investments
- Lack of actionable information
- Blind decision-making

**Operations View**
- Inadequate service levels
- Inability to rapidly deploy applications
- Complex, multi-tier operating environments

**Application Development View**
- Overwhelming complexity
- Relentless time-to-market pressure
- Uncontrolled change
The solution: Breaking down the silos

A shared view of the development lifecycle

**Business View**
- Clear view of technology ROI
- Top-down and bottom-up visibility into technology projects
- Objective decision-making support

**Operations View**
- Improved service and quality compliance
- Predictable deployments
- Accelerated diagnosis and repair

**Application Development View**
- Rapid application development and deployment
- Improved collaboration
- Asset reuse
Transform and simplify software delivery

**Business driven development**

Governing the business process of software and systems development

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**Development as a business process**

- Align Technology and Business priorities
- Improve efficiency and responsiveness
- Create innovative products
- Higher productivity - 50% + increase in developer productivity
- Improved quality - 80% fewer bugs
- Greater predictability

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Software development becomes a driver of competitive advantage
The IBM Rational Software Development Platform

A complete, open, modular, and proven solution

Analyst
Model, simulate, assemble, and monitor processes

Architect
Visually model applications and data

Developer
Rapidly construct, transform, integrate and generate code

Tester
Design, create, and execute tests

Deployment Manager
Provision, configure, tune and troubleshoot applications

Project Manager
- Follow a common process
- Manage and measure projects and portfolios
- Manage requirements
- Manage change and assets
- Manage quality

Executive
- Align investments with business objectives
- Analyze and monitor project portfolios
The business-driven development lifecycle

- Business
  - Senior Executive
- Define Requirements
- Model the Business
- Analyze & Design
- Implement
- Test
- Deploy
- Manage
- Optimize

- IT Operations Manager
- Application Support
- Deployment Manager
- Business Development
- Operations
- Development
- Tester
- Developer
- Architect
- Analyst
Throughout: Prioritize, plan, and manage

*Align priorities, projects and people*

- **For executives**
  - Visualize and balance portfolios
  - Make objective “save/kill” decisions
  - Move smoothly from initiatives to measurable programs and projects
- **For project and program managers**
  - Quickly ramp projects with reusable processes based on best practices
  - Balance workload and manage demand
  - Manage skills inventory and usage
  - Actively manage risks and issues
- **For team members**
  - Communicate, coordinate and collaborate globally

**IBM Rational Portfolio Manager**