IBM Software Group

IBM Rational Software Development Team Products Release 7.0

ON DEMAND BUSINESS™

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Agenda

- Adding value to your software
- Business problems and solutions that impact software and systems delivery
- Governance with IBM Rational Software Development Platform
  - Process and Portfolio Management
  - Integrated Requirements Management
  - Accelerating the global software delivery lifecycle
- Product enhancements in release 7.0

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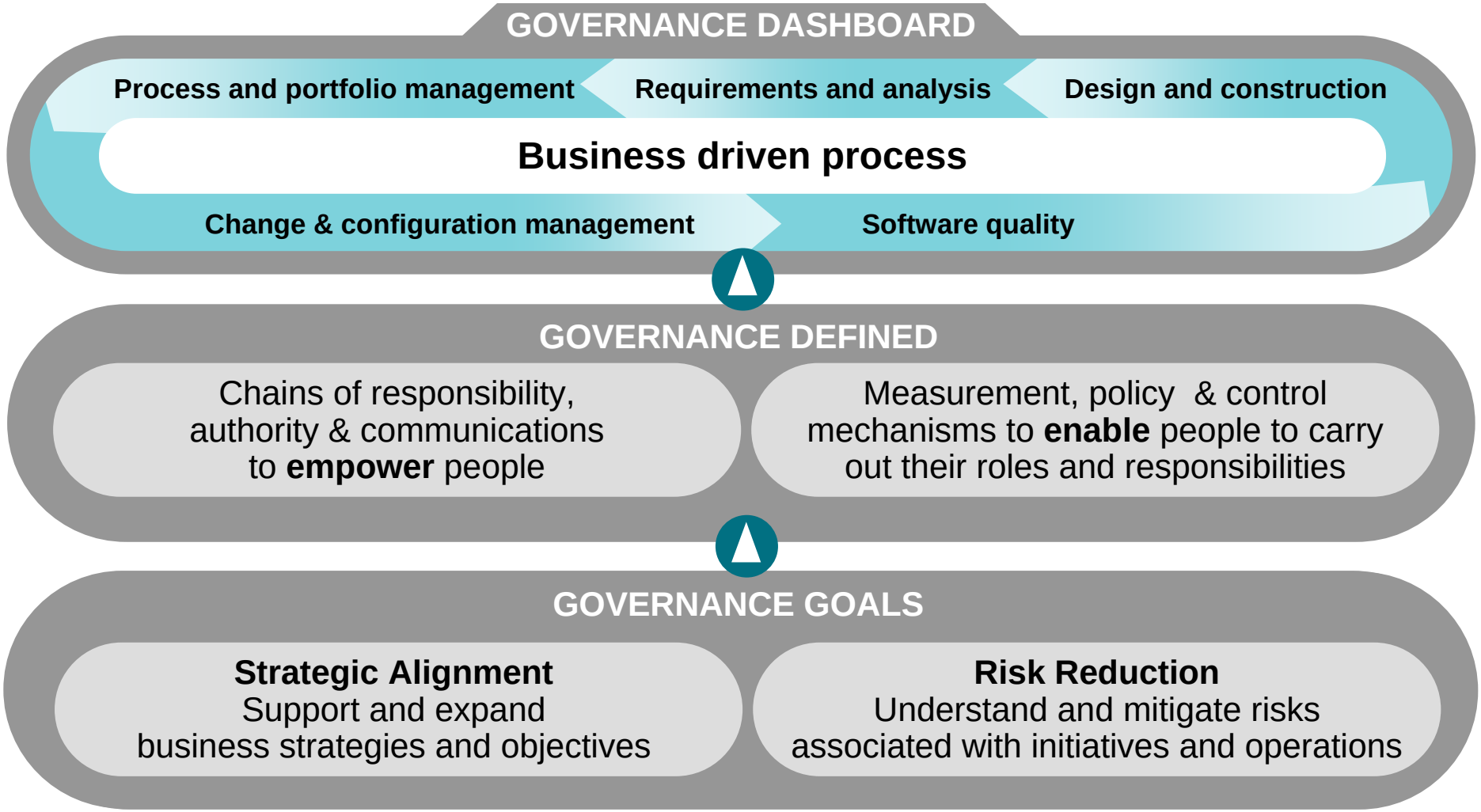
Governance is a Top Priority

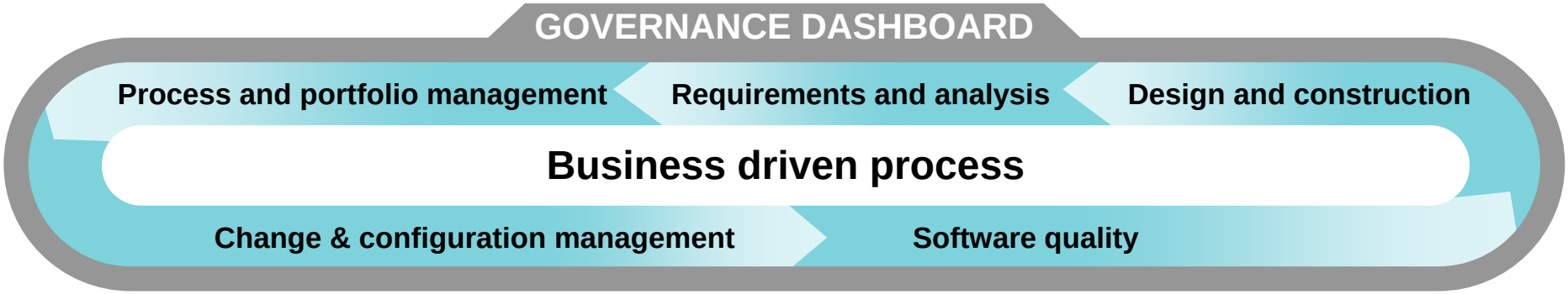
"As dynamic computing initiative such as SOA and virtualization begin to take root, IT decision makers are finding that more robust IT governance capabilities are necessary to make coordinated decisions across increasingly interdependent technology domains."
Five Ways the Rise of IT Governance Will Change How Enterprises Buy IT
Summit Strategies Report, Dec. 2005

"Supporting changes in corporate governance to address regulations like Sarbanes-Oxley is the top priority for North American enterprises with more than 20,000 employees, and it's a priority for half of all North American enterprises."
Software Configuration Management Tools Ease The Burden Of Compliance
Carey Schwaber, Forrester Research, 2005

IBM Rational Governance



IBM Rational Governance



Manage value

- Real-time analytics linking financial and software information
- Real-time resource management and financial status
- Comprehensive dashboard reporting and drilldown
- Analytics showing a balanced business and technical perspective

Develop flexibly

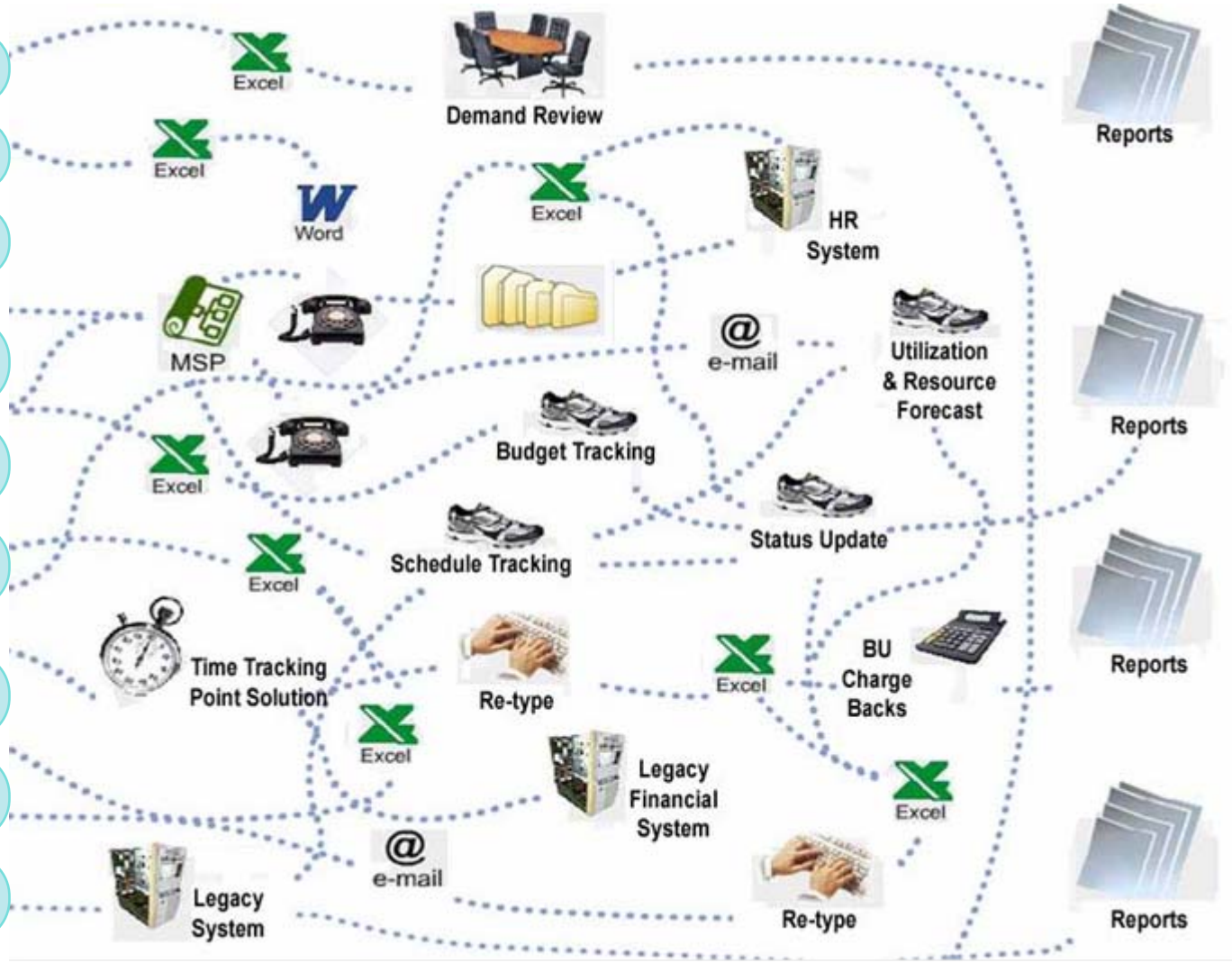
- Global resource management
- Centralized enterprise project management
- Proven best practices
- Integrated requirements management
- SOA design and construction capabilities
- Open, role-based team environment

Control risk and change

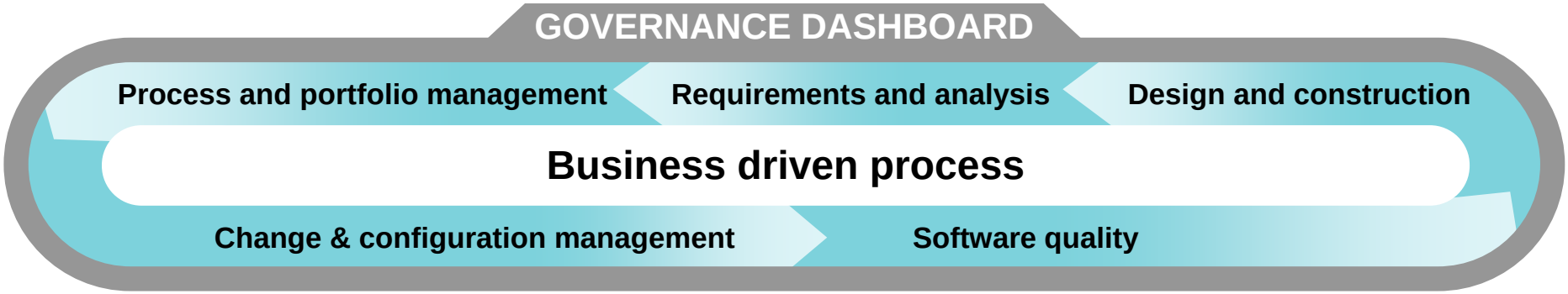
- Enterprise risk management
- Integrated scope management
- Life-cycle change and asset management
- Built-in audit and status information on projects and assets
- Performance testing
- Service-level monitoring

Governance Blockers

- Demand Management
- Process Management & Automation
- Lifecycle Analytics
- Portfolio Management
- Resource Management
- Financial Management
- Time & Expense Management
- Project Management
- Scope Management

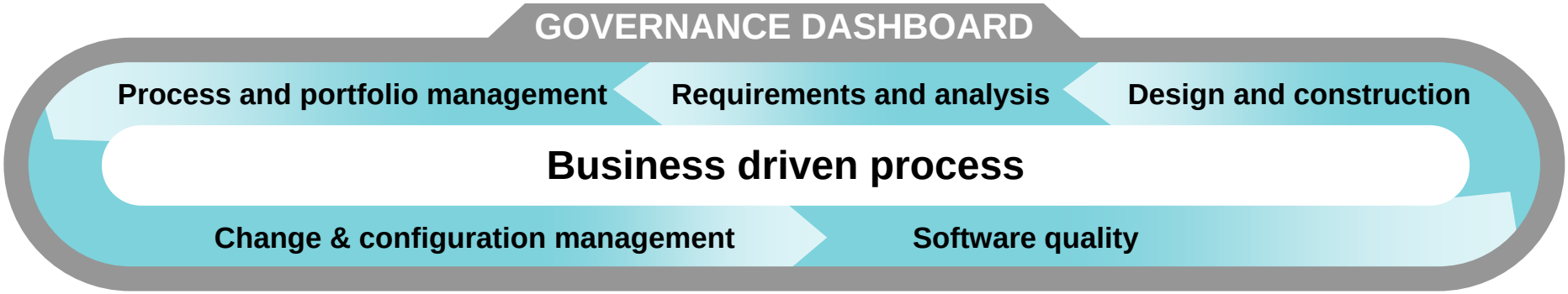


Governance Blockers



Manage value	Develop flexibly	Control risk and change
Siloed Contributors	**Incomplete Process**	**Increasingly Distributed Teams**
Departmental Barriers resist productivity improvements	*Difficulty tailoring all phases of the project to unique business processes*	*Struggle to apply consistent practices to all contributors*

IBM Rational Governance Improvements



Manage value

Extended lifecycle automation

NEW! *Automated build and release management*

Develop flexibly

Complete workflow customization

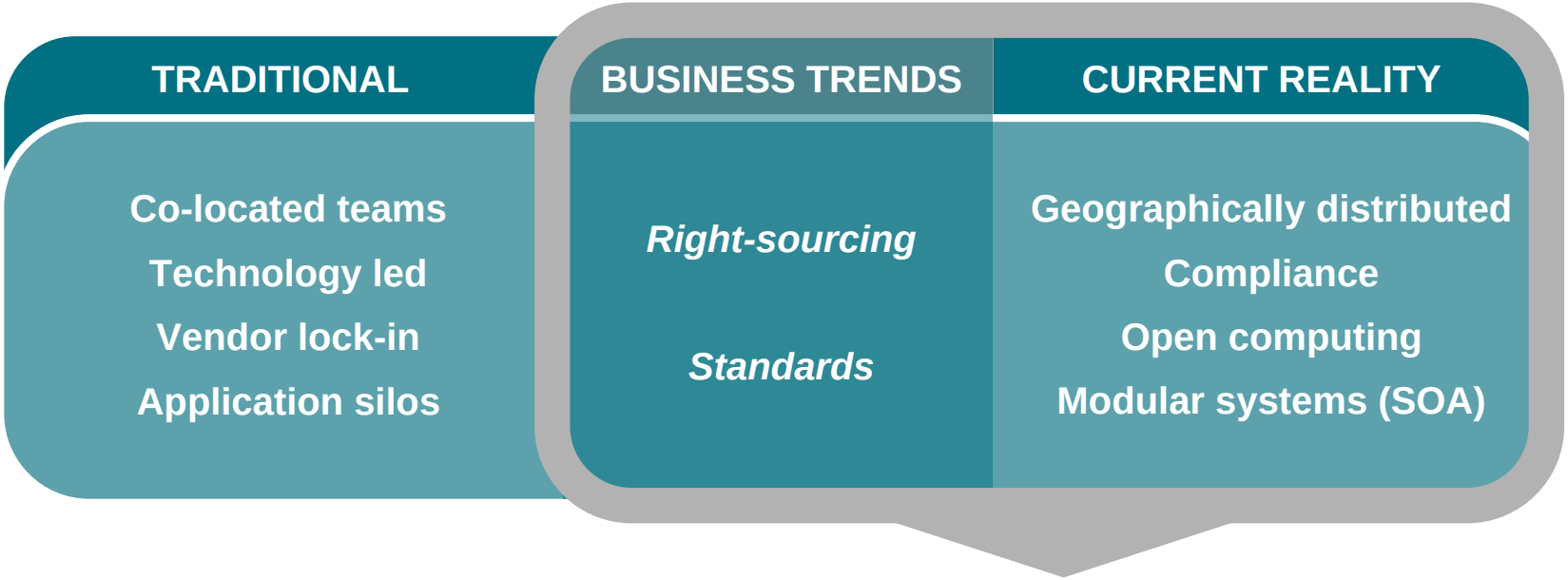
NEW! *Enterprise test management*

Control risk and change

Improved support for GDD

NEW! *Complete lifecycle replication*

Evolving software and systems delivery



Business Driven Development

Enabling organizations to *govern* the business process of software and systems development

IBM Rational Software Development Platform

GOVERNANCE DASHBOARD

Solutions for geographically distributed development, compliance, SOA

Process & portfolio management

- IBM Rational® Portfolio Manager
- IBM Rational Method Composer
- Best practices content (IBM Rational Unified Process® IBM Tivoli Unified Process®, Portfolio Management)

Requirements & analysis

- IBM WebSphere® Business Integration Modeler
- IBM Rational RequisitePro®
- IBM Rational Software Architect
- IBM Rational Software Modeler
- IBM Rational Rose® Data Modeler

Design & construction

- IBM Rational Software Architect
- IBM Rational Software Modeler
- IBM Rational Application Developer
- IBM Rational Systems Developer
- IBM WebSphere Integration Developer

Software quality

- IBM Rational Performance Tester
- IBM Rational Functional Tester
- IBM Rational Manual Tester
- IBM Rational PurifyPlus

Change & configuration management

- IBM Rational ClearCase®
- IBM Rational ClearQuest®
- IBM Rational Team Unifying Platform™
- IBM Tivoli Provisioning Manager
- IBM Tivoli Configuration Manager
- IBM Tivoli Intelligent Orchestrator

Partner ecosystem & open computing: Eclipse, Linux®, Microsoft® Windows®, UNIX®, IBM z/OS®

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Software delivery challenges for On Demand Business

On Demand Business focus

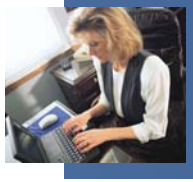
- **Responsiveness** as a key competency
- **Effectiveness** of people as a critical success factor
- **Revenue growth** with cost containment

Software delivery challenges[1]

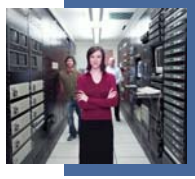
- Keeping software projects **aligned** with changing business priorities
- Delivering better **business results** within the constraints of current investments and skill sets
- **Effectively managing** business and technical **risk**

[1] *IBM Rational research*, November 2005

IT Governance challenges: Measuring impact on Business



Inability to align and prioritize IT investments against business goals results in sub-optimal use of IT resources → **Missed New Business Opportunities**



Inability to monitor project and portfolio metrics prevents accountability and cost control and results in risky “go-live” decisions → **Overruns, Customer Dissatisfaction**

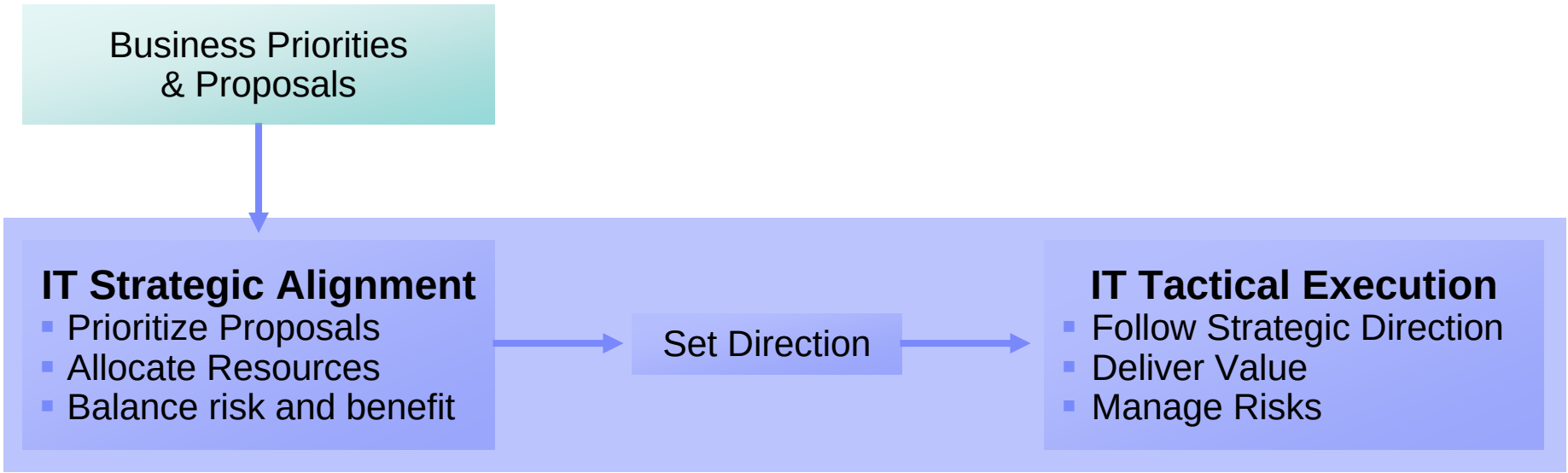
Inability to communicate policies implement controls and document compliance results in painstaking manual efforts → **Inefficient processes, compliance risk**

Inability to monitor key business systems health and service level agreement status results in system down-time → **Lost Revenue or Productivity**

Inability to automate governance policies from definition to execution to assure execution of strategy → **Compliance and Integrity gaps**

A Static View of IT Governance is not Enough

- IT Governance is a framework for strategic decision making and communication that aligns IT with the business.

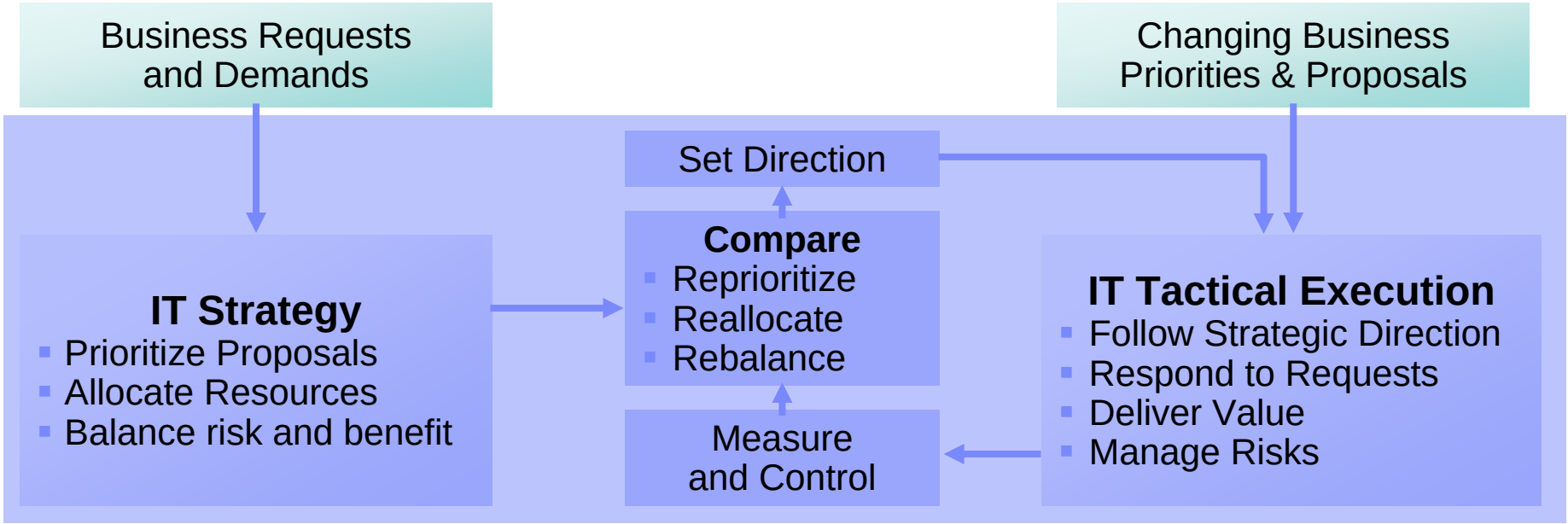


Most financial institutions lack both the data and the business-oriented metrics needed to measure returns on IT investments, so accepting the status quo offers little chance for performance improvement.

"Reaching efficient frontiers in IT investment management" IBM Institute for Business Value, Dec 2004

Solution: Dynamic View of Governance

- Dynamic view – IT Governance includes
  - Practices to ensure efficient execution in alignment with strategic objectives
  - Systematic risk management
  - Measurement and control systems to assess, direct and correct execution



By 2008, more than 50 percent of large enterprises will use portfolio management techniques and tools for planning, prioritization, justification and communication (0.7 probability).

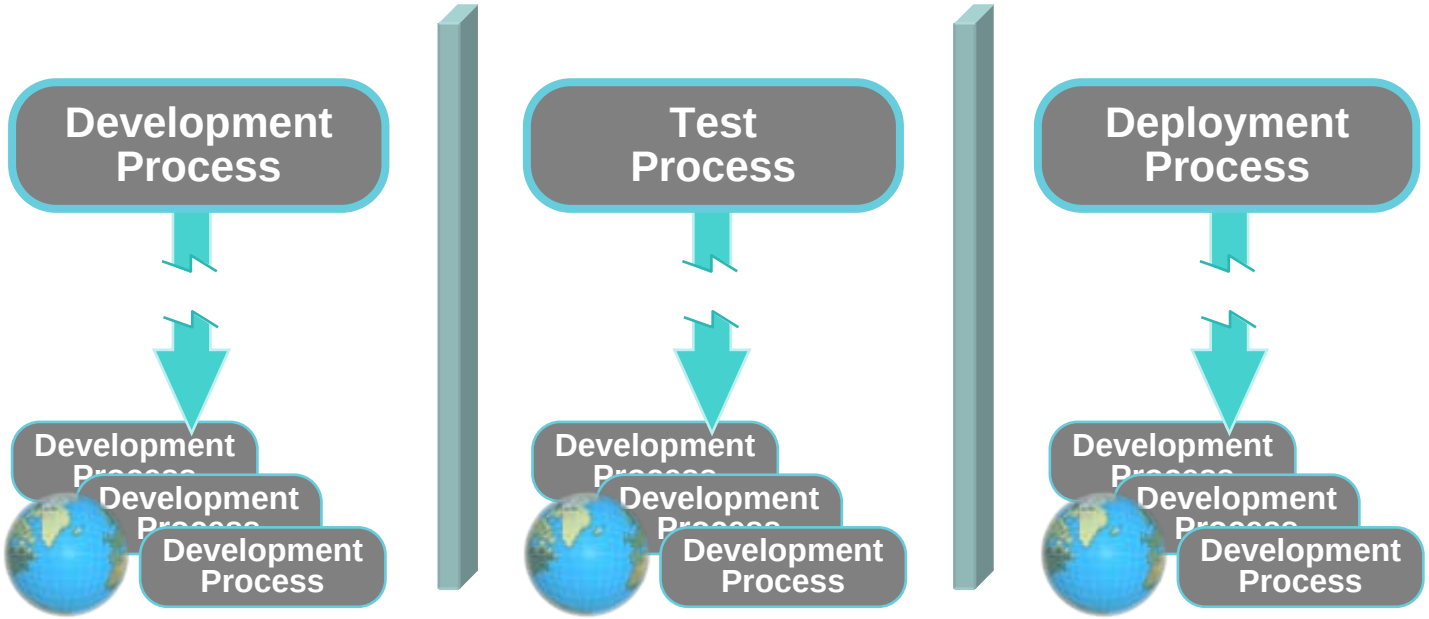
Realizing the Benefits of Project and Portfolio Management Gartner.
Gartner RAS Core Strategic Analysis Report G00125673, M. Light, B. Rosser, S. Hayward, 4 January 2005

Global software delivery challenges: Disconnected

Business Imperatives	Lost in Translation
Innovation	**Unpredictability** ▪ Broken builds, failed test cases ▪ Innovation “capital” tied up maintaining software ▪ Processes and people not aligned ▪ Lack of automation inhibits innovation
Flexibility	**Inconsistent delivery** ▪ Example: Test strategy by site or project ▪ Overhead from regulatory compliance ▪ Lack of visibility into full lifecycle activities
Control Risk and Cost	**Risks unknown “black holes”** ▪ Example: Fire drills on project status ▪ No single point view of global efforts ▪ Inconsistent audit and traceability ▪ Language and platform inconsistencies

Root cause: Software process silos

Software delivery not governed as a core business process

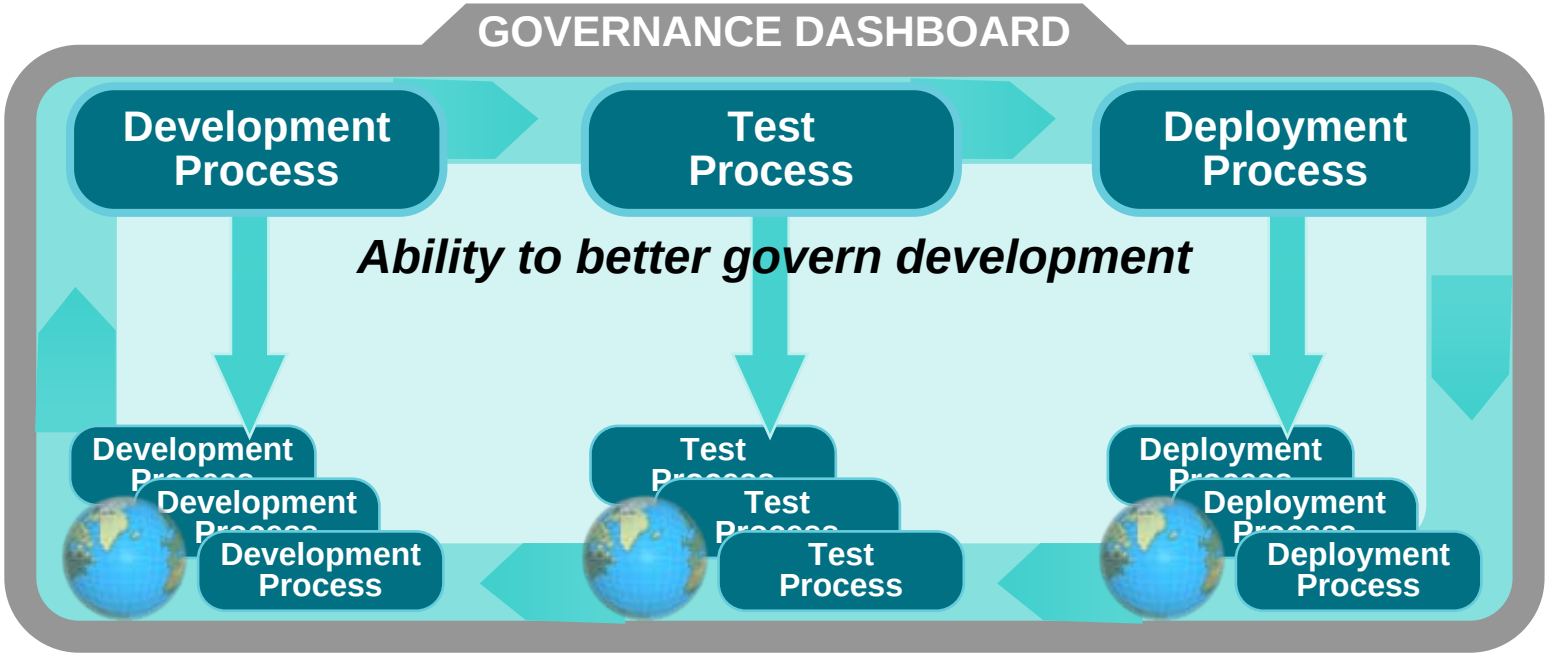


Challenges

- Unique processes for each silo; poor communication between silos
- Best practices and processes not shared across silos
- Geographic distribution exacerbates situation
- Inability to innovate

Solution: Improve global software delivery

Break down the silos!

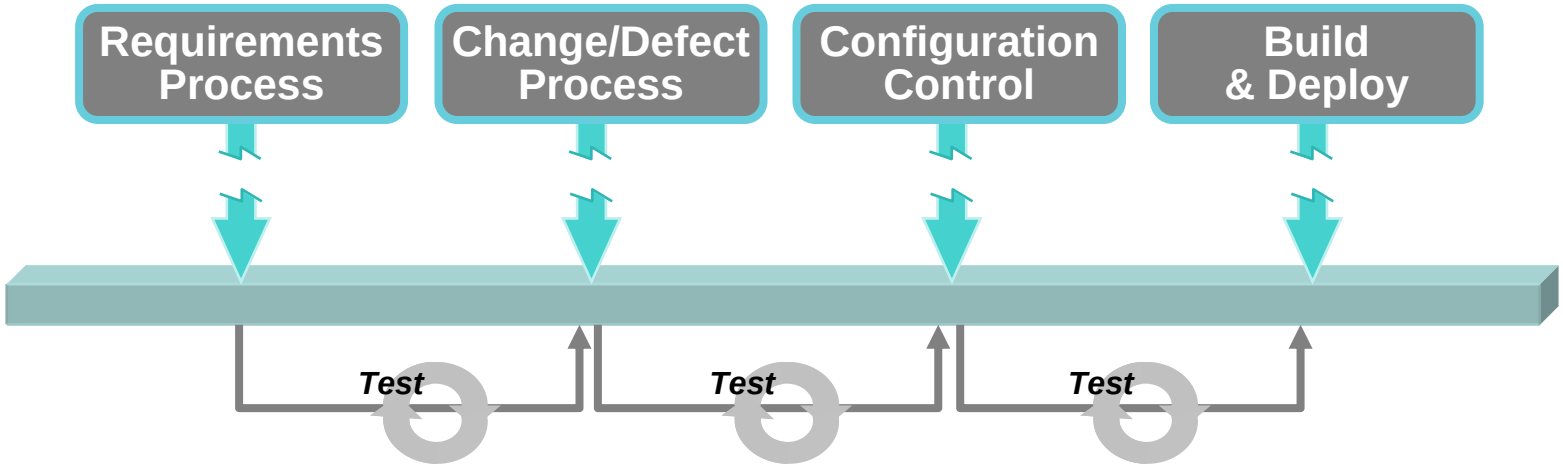


Result: A more effective software supply chain

- Gain strategic alignment and reduce risk and costs
- Leverage and reuse assets through better automation of processes
- Unlock innovation opportunities at the “intersections” between processes

Challenge: Silos between development and test

- Difficulty customizing and enforcing test process and best practice
- Use of separate tools hampers full project view

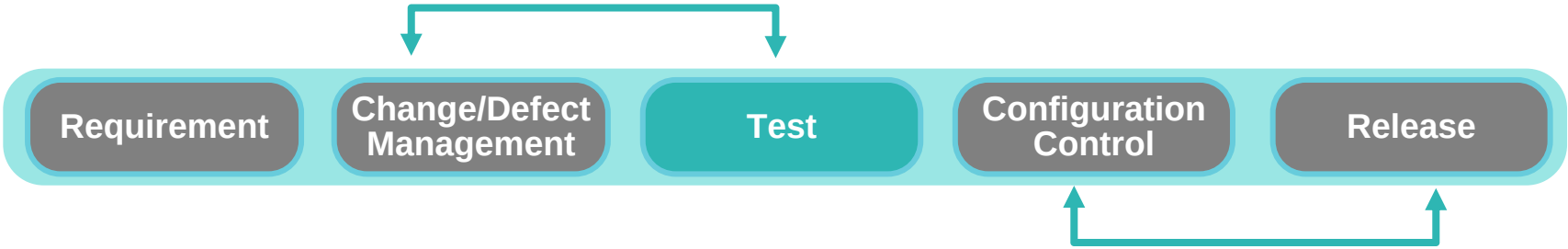


Solution: Automated global test management

New!

New IBM Rational ClearQuest v7 test management capabilities

- Coordination of globally distributed testing
- Single project view including quality metrics and status
- Extensible test management ecosystem

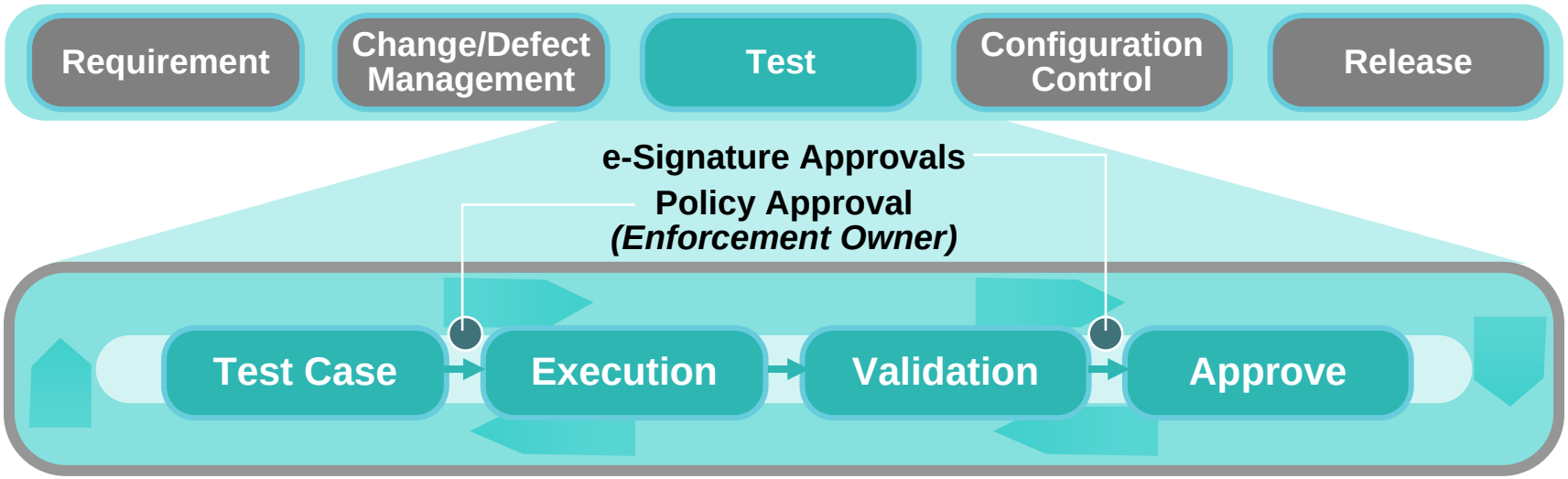


New!

Solution: Configurable, enforceable test processes

Configurable workflows easily enable test management best practices

- Auditable test change history
- e-Signature support for improving regulatory compliance management
- Project security

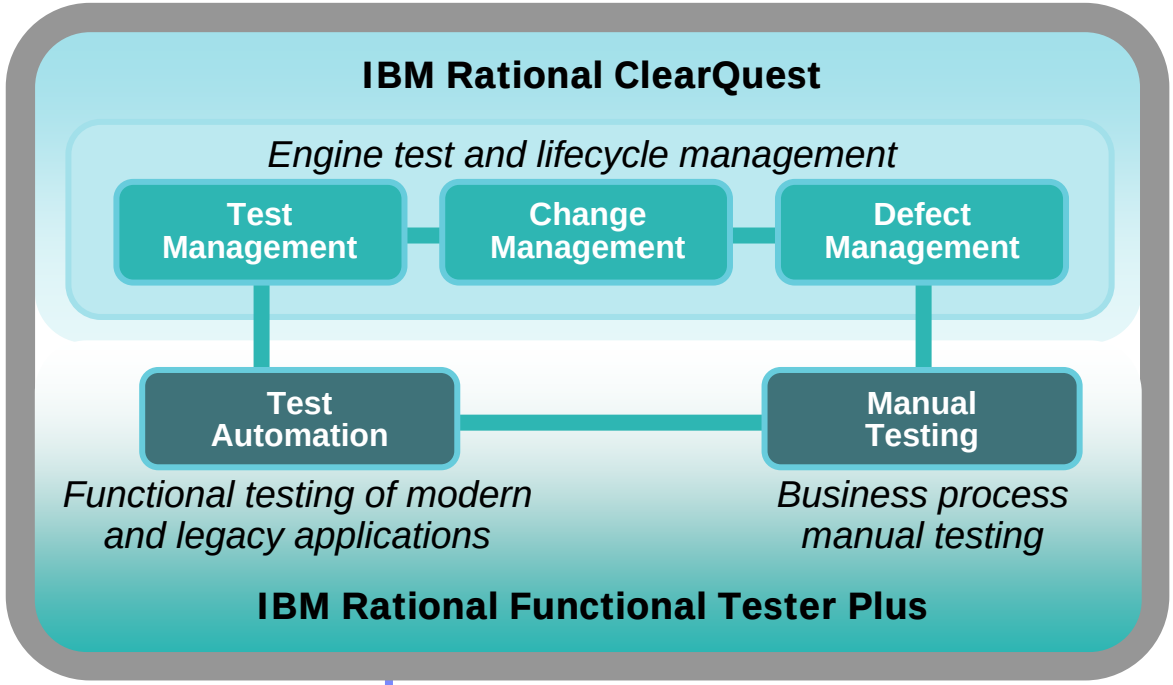


Solution: Complete test management and automation

New!

IBM Rational ClearQuest and Rational Functional Tester Plus

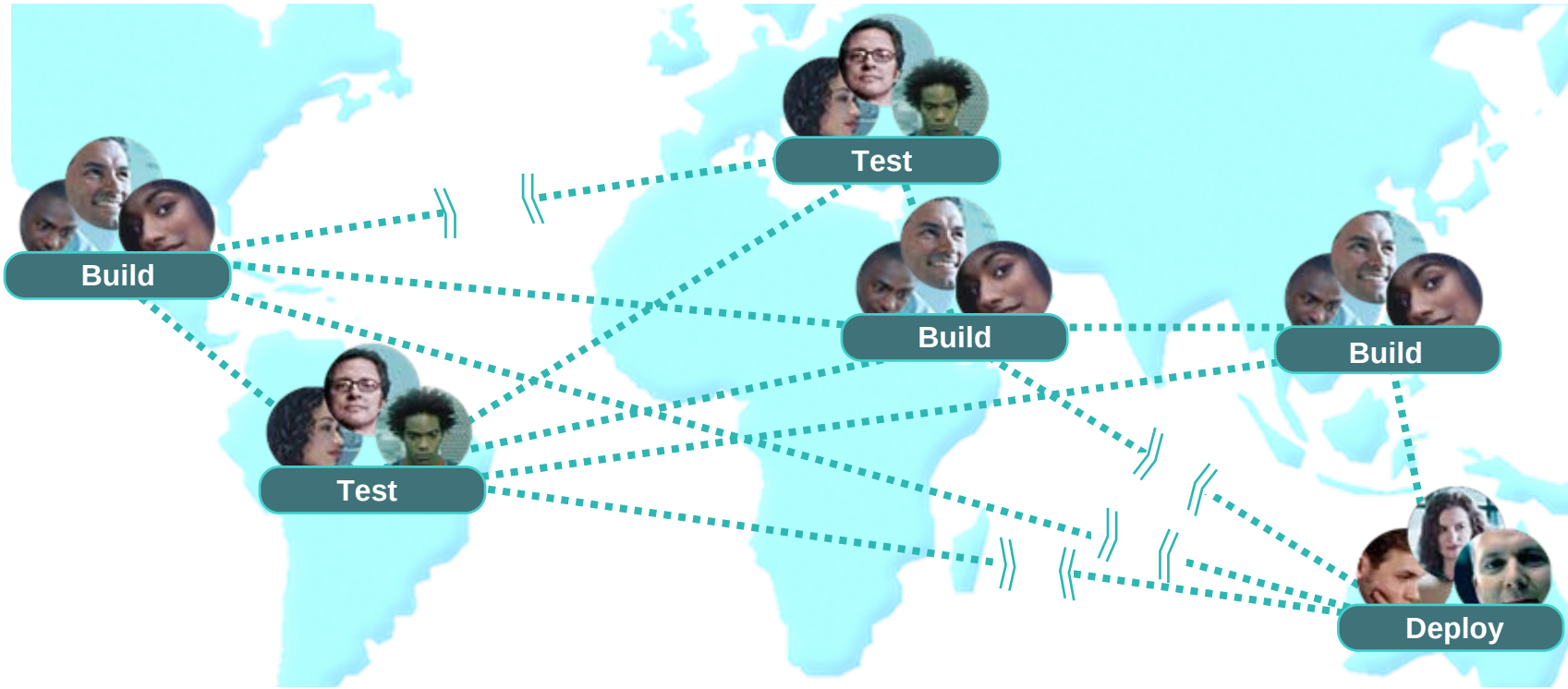
- New bundle for complete test lab management and test automation
- Available upgrade for existing customers who want to adopt a more holistic and integrated lifecycle approach to testing



IBM Rational ClearQuest
IBM Rational Functional Tester
IBM Rational Manual Tester
IBM Rational Robot

Challenge: Local Needs in Global World

- Participate in a project that's not using your language
- Have an user interface you can understand
- Make use of latest platform improvements
- Options when choosing an interface



Solution: Unicode support for native-language access to global change management information

New!

- Freedom to mix OS clients
  - Example: Japanese & English in same deployment
  - Support for mixed language environments
  - Share common code page regardless of system language
- Non-ASCII support on UNIX
- New Translations:
  - New IBM Rational ClearQuest
    - Simplified Chinese
    - ClearCase .Net
      - German, French, Italian, Brazilian Portuguese, Spanish, Japanese, Korean, Simplified and Traditional Chinese

Solution: Improved remote access and Web clients

New!

- One native IBM Rational ClearQuest Client for all platforms
  - Eclipse-based
  - Connection management
  - XML export
  - Context-sensitive help
- IBM Rational ClearQuest web improvements
  - Link between record types
  - UCM change set versions
  - Web platform scalability enhancements

Solution: Global traceability support

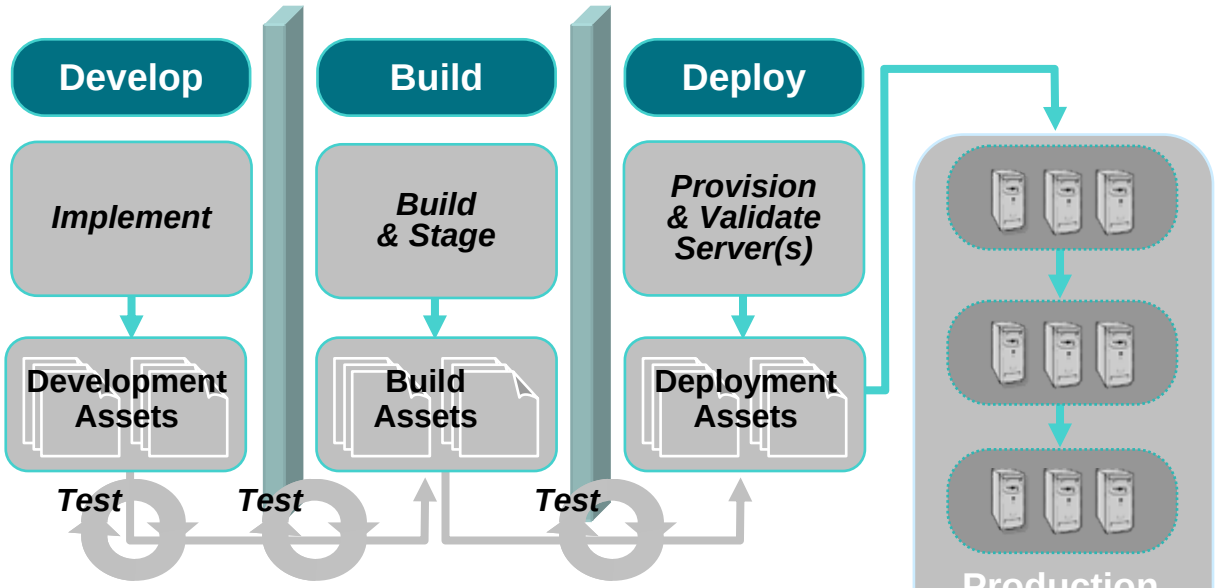
New!

- Full lifecycle managed in CQ
  - Automatic Logging
  - eSignature support
  - MultiSite-able
- High scalability for large enterprise projects

- Coordinate geographically distributed testing
- Automates sharing and reuse of distributed test assets
- Around the world or around the corner

Challenge: Silos Between Development, Build and Deployment

- Difficulty tracking testing status of multiple builds
- No shared processes, artifacts or controls
- "Over the wall" communication
- Minimal reuse



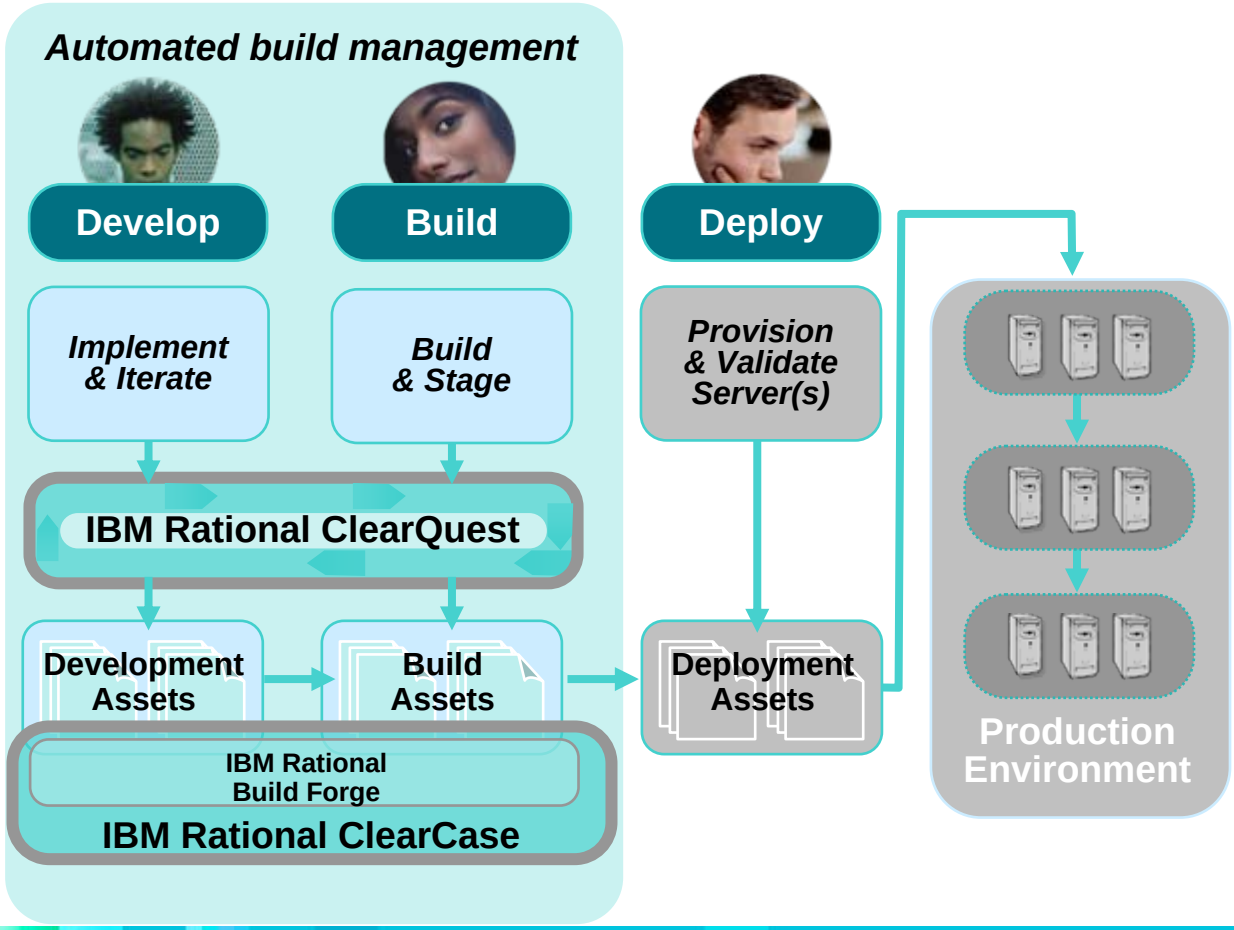
- Labor intensive
- Error prone handoffs

Solution: Automated build management

New!

New IBM Rational ClearQuest and IBM Rational ClearCase v7 with IBM Rational Build Forge v7 integration

- Automated build management
- Detailed record of build content
- Support for continuous builds
- New IBM Rational ClearQuest build record for tracking and reporting

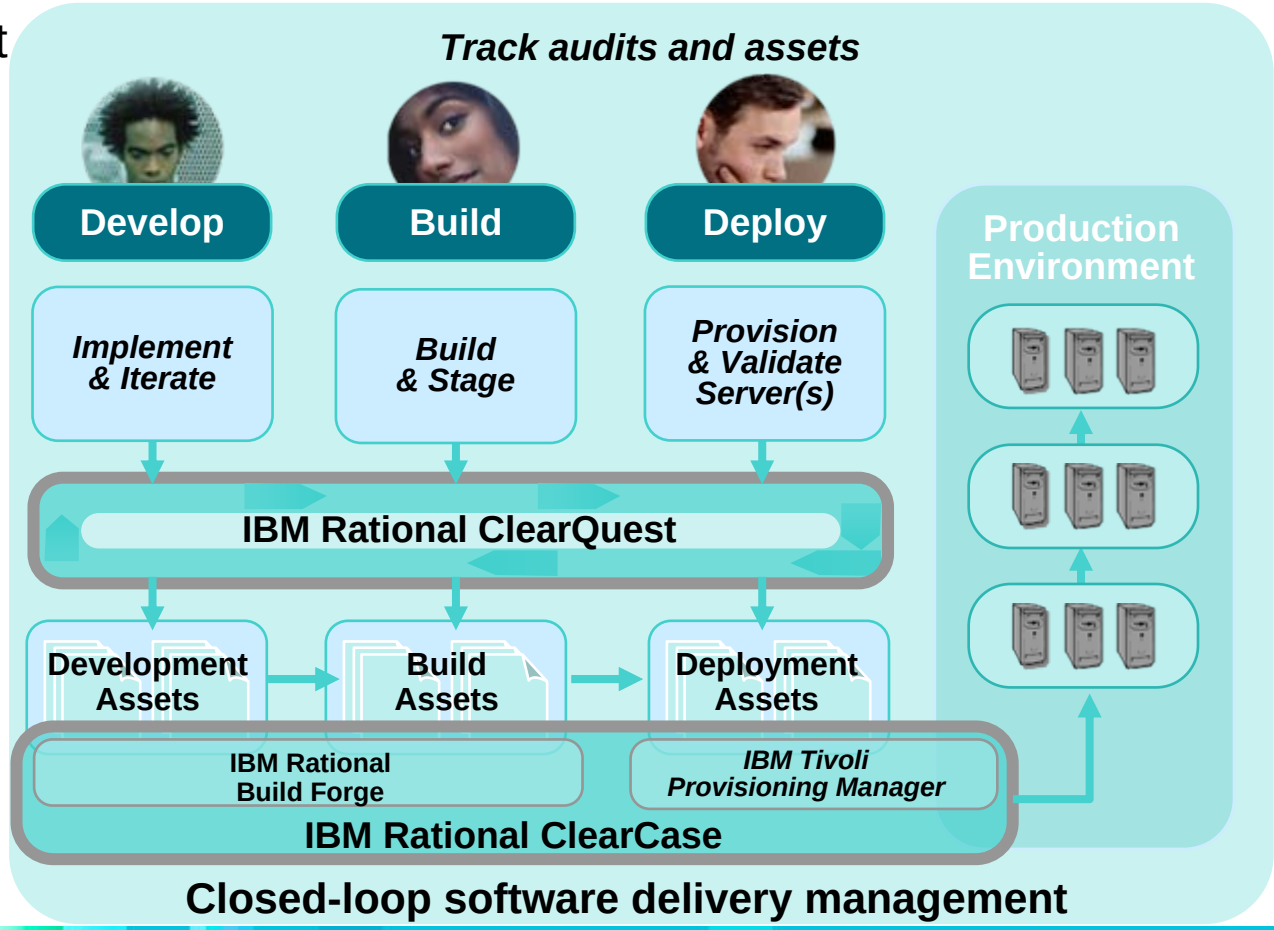


Solution: Track audits and assets

New!

New IBM Rational ClearQuest and IBM Rational ClearCase v7 with IBM Tivoli Provisioning Manager integration

- IBM Rational ClearQuest
  - New deployment record
  - ClearQuest logging and eSignature process enforcement
  - Track information about assets in production
- IBM Tivoli Provisioning Manager
  - Automated configuration and provisioning of multiple deployment environments
  - Services view of production assets, rather than server-by-server



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What is Process and Portfolio Management?

Process is the underlying structure that makes for successful implementation

- **Project Management** – initiating, planning, executing and closing projects while optimizing use of resources (time, money, people).
- **Program Management** – coordinated management of groups of projects.

Do things right

- **Portfolio Management** - evaluation, prioritization, budgeting, and selection of investments / initiatives (projects, assets, people) that provide the greatest value and contribution to the strategic interest of the organization. Includes ongoing monitoring of investments to measure returns.

Do the right things

Decision Support

Do we have the info needed to make decisions?

What is process?

- Development processes define how development projects shall be executed.
  - One of the most common characteristics found within the many different definitions of process in literature is sequencing of phases and milestones expressing a lifecycle of the product under development.
  - Processes also define how to get from one milestone to the next by defining sequences of work, operations, or events that usually take up time, expertise, or other resources, and which produce some outcome.

Why is process important?

Consistency

- Enable clear, consistent communication for all team members
- Help team members understand their responsibilities and their relationship with other team members

Predictability

- Help identify what resources are needed and when
- “Compare to” baseline for addressing bottlenecks and failure points
- Enables metric development to support future planning and estimation
- Defines decision points to reduce surprises
- More customer intimacy

Quality

- Focus on risk reduction
- Roadmap of how value will be delivered to the customer

What is the value of process?

Organizations perceive value in ***their*** business framework

Improved operational excellence

Improved reputation

- Attractiveness to customers (e.g., Level 4 SEI maturity, ISO 9000)
- Attractiveness to workforce

Revenue growth

Better features/quality

- Earlier market capture
- More customer intimacy
- Better products

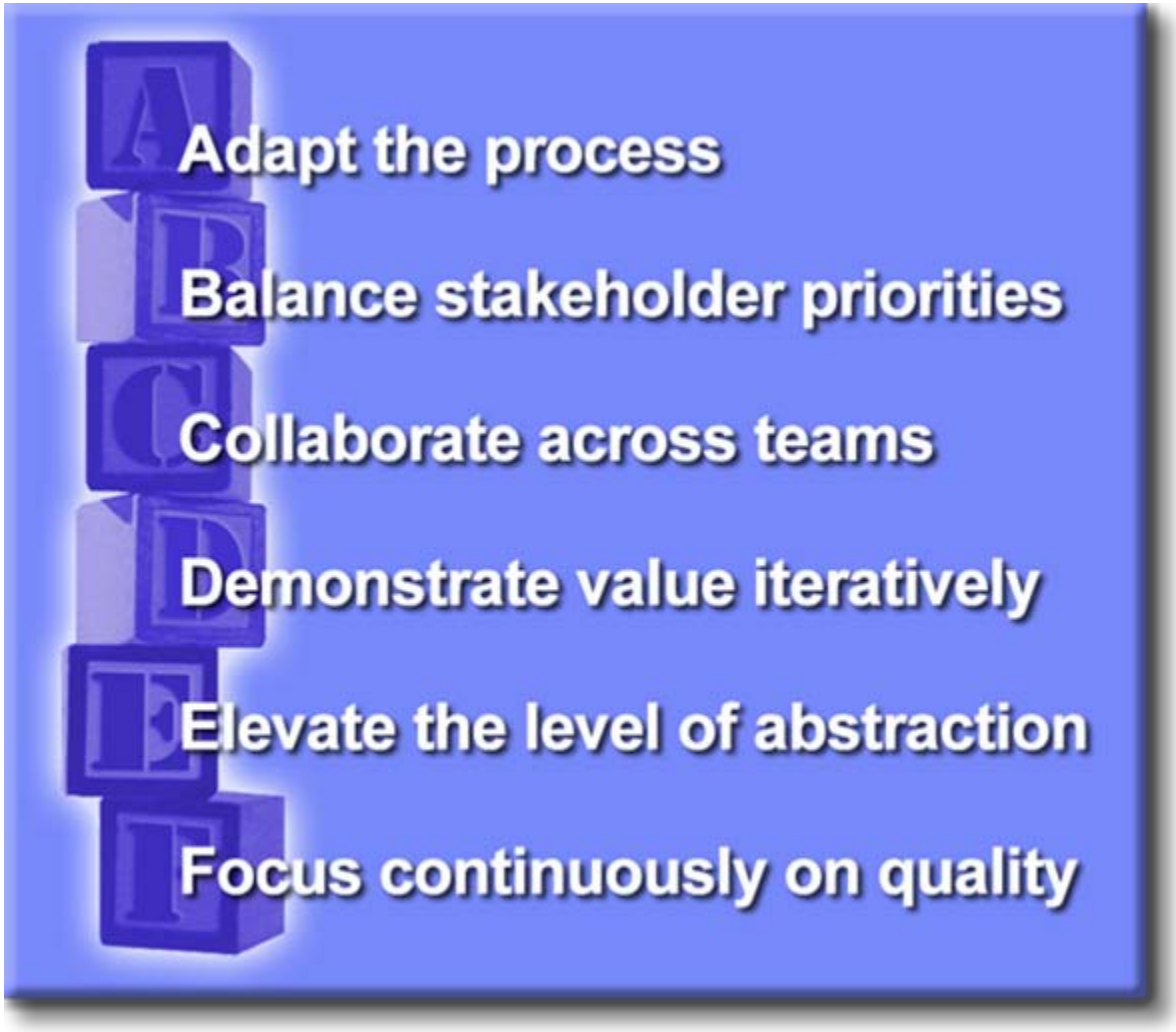
Cost savings

Better software economics

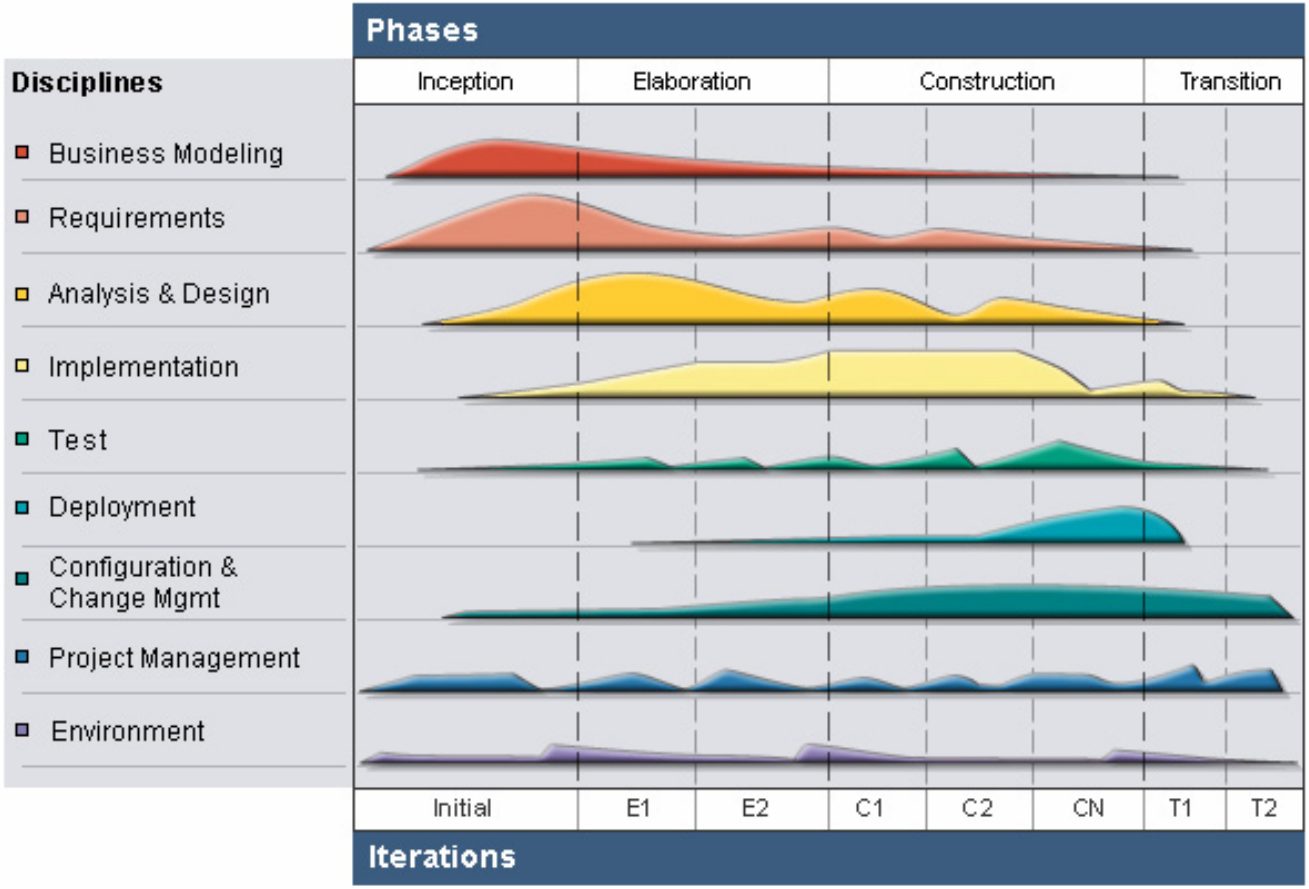
- Faster development cycles
- Smaller teams
- More functionality per dollar

Value = Positive Results Over Time

Business-Driven Development: Key Principles



RUP: risk driven, a use-case based, architecture-centric, iterative software development process



What Is Rational Method Composer?

New commercial process product that supports business-driven development	▪ Includes all Rational Unified Process content ▪ Additional plug-ins available
Support a broad set of project types	▪ Small, Medium-sized, and Large Projects (Classic RUP) ▪ Service-Oriented Architecture (SOA), COTS / Packaged Application Development, Maintenance
Addresses enterprise needs	▪ Project, Program, and Portfolio Management ▪ Business, Process, and Systems Engineering, Asset-Based Development
New easy-to-use form-based tools for authoring, configuring, and viewing the process	▪ Build your own processes ▪ Integrate your best practices with IBM best practices to build customized solutions ▪ Integrates with Rational Portfolio Manager

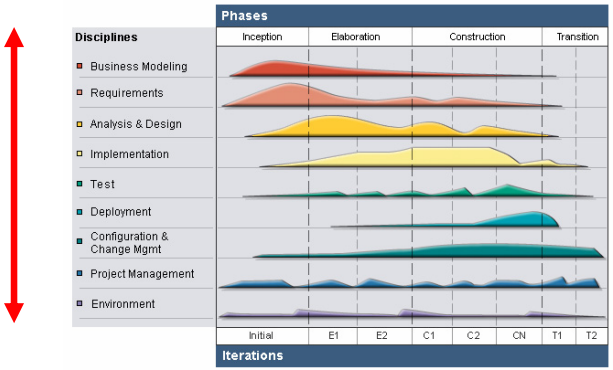
Terminology: Method Content versus Process

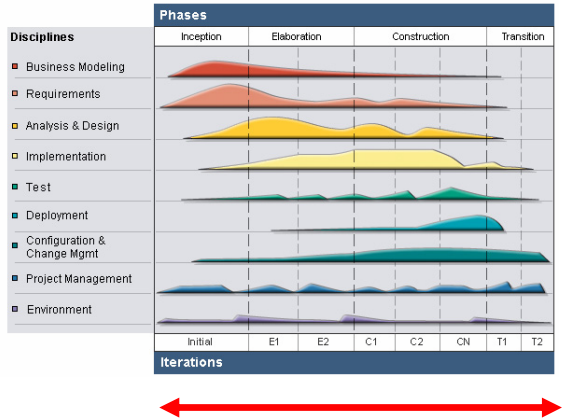
Method Content

- Describes key reusable building blocks
- Step by step guidelines by which specific goals are approached
  (Roles, Work Products, Tasks, Guidance)
- General development techniques and practices, described lifecycle-independent (info you find in books)
- E.g. “Analyze Use Case Behavior”, “Develop component model”, etc.

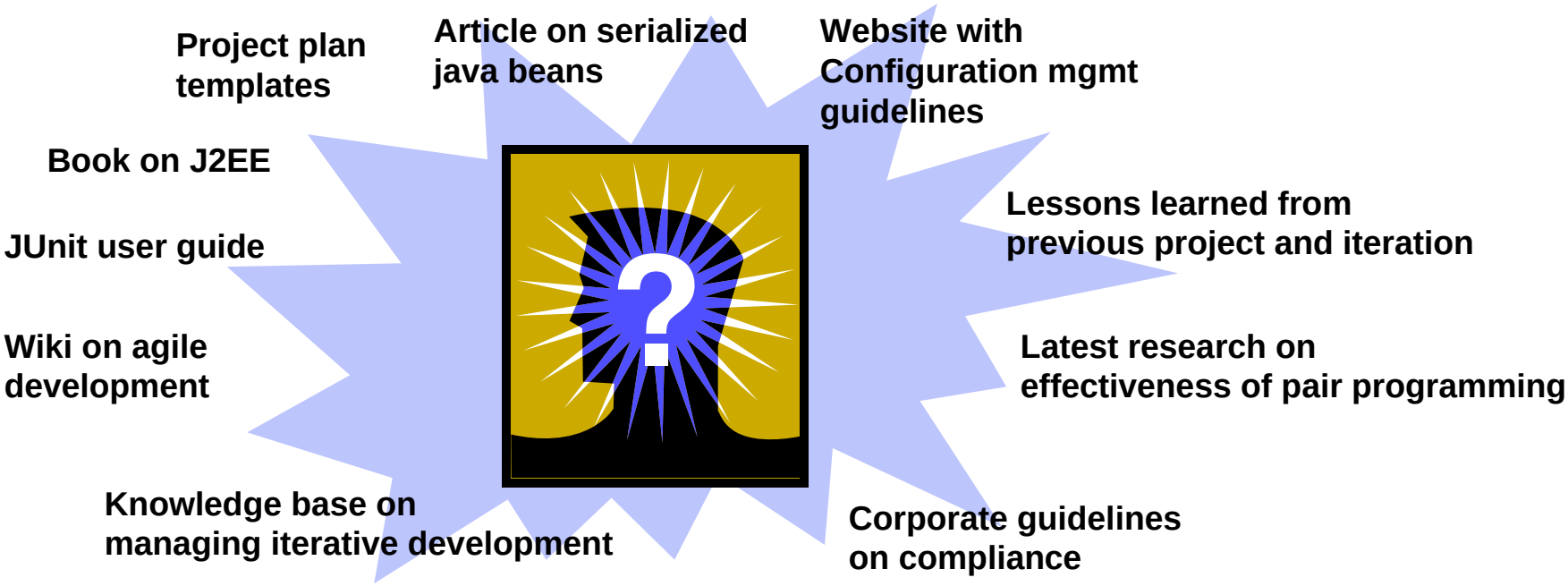
Process

- Applies method content for assembly of many different executable processes
- Specific to the scale/context of project
  (e.g. develop from scratch versus maintain ex. System
  or formal/high ceremony versus agile and self-organizing)
- Described with Breakdown Structures that refer to Method Content elements
- UMA defines two types of processes
  - Delivery Process: End-to-end project
  - Capability Pattern: reusable fragments





What Development Teams Are Facing Today



- No **common language** or terminology between processes - redundancy and inconsistencies
- Knowledge cannot easily be **customized** for different projects or new best practices
- No **central community** or **communication framework** to facilitate convergence of best practices across domains

A Better Approach

Standardize representation and manage libraries of reusable **Method Content**

Content on agile development

Content on managing iterative development

Guidance on serialized java beans

JUnit user guidance

Content on J2EE

Configuration mgmt guidelines

Develop and manage **Processes** for performing projects

Lessons learned from previous project and iterations

Corporate guidelines on compliance

Process assets patterns

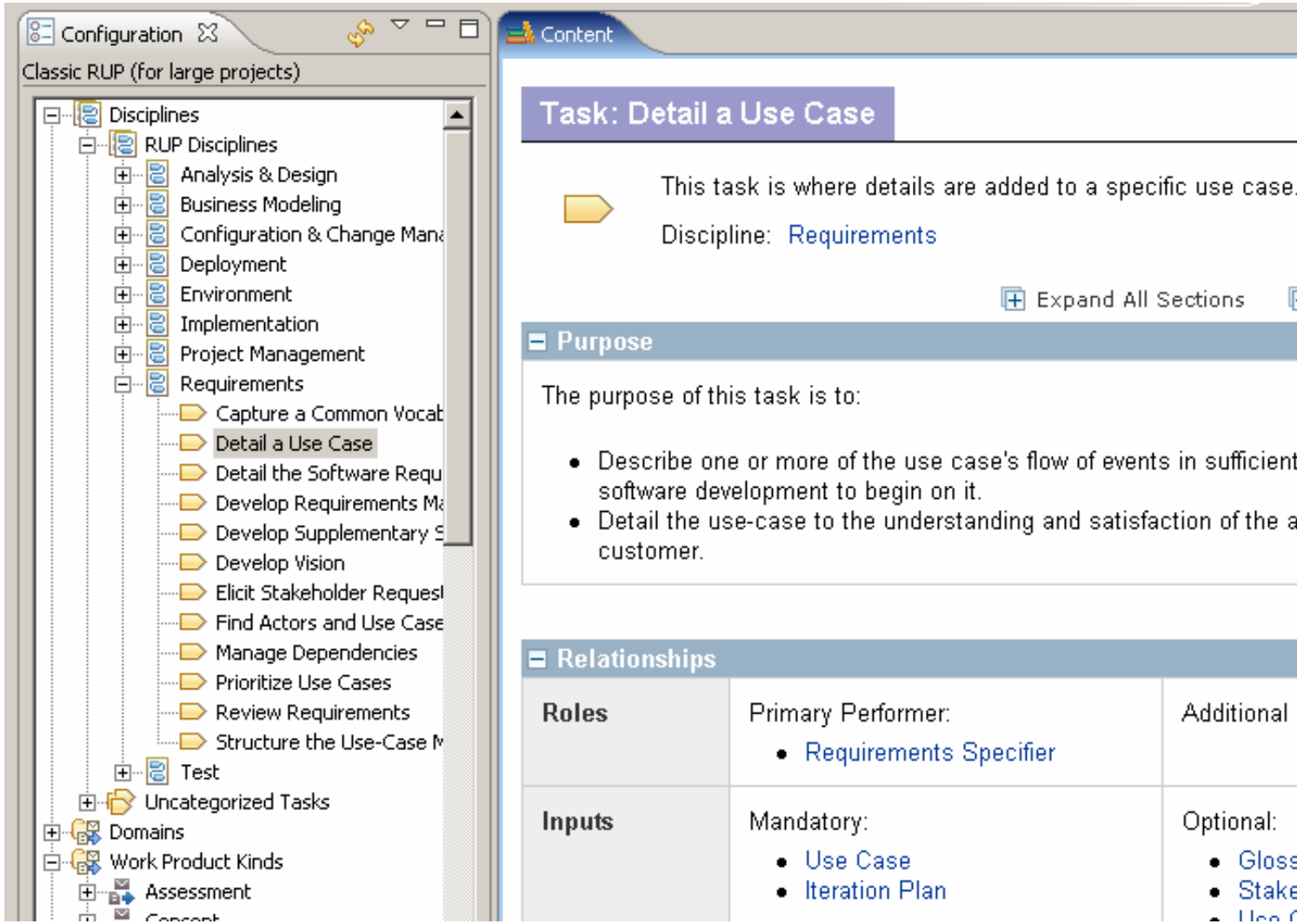
Standard or reference processes

Project plan templates

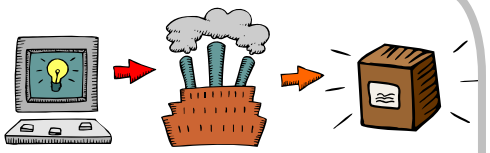
Configure a cohesive process framework customized for my project needs

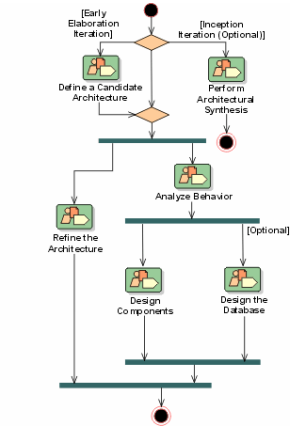
Create project plan templates for **Enactment** of process in the context of my project

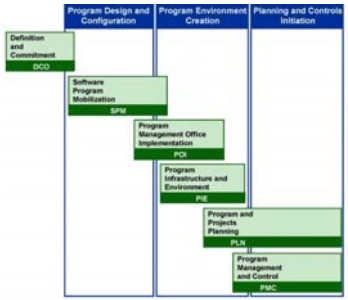
Method Content Example

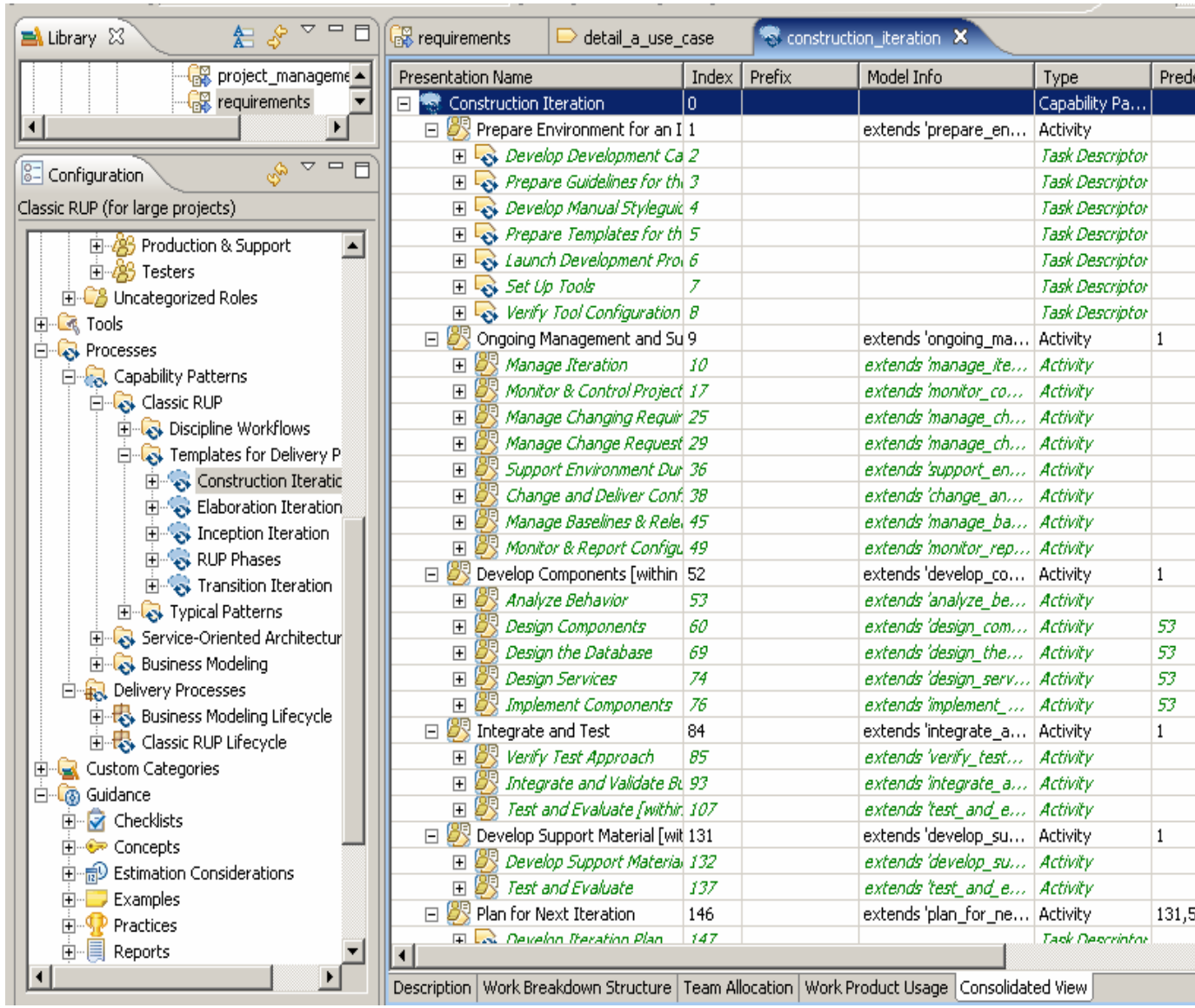


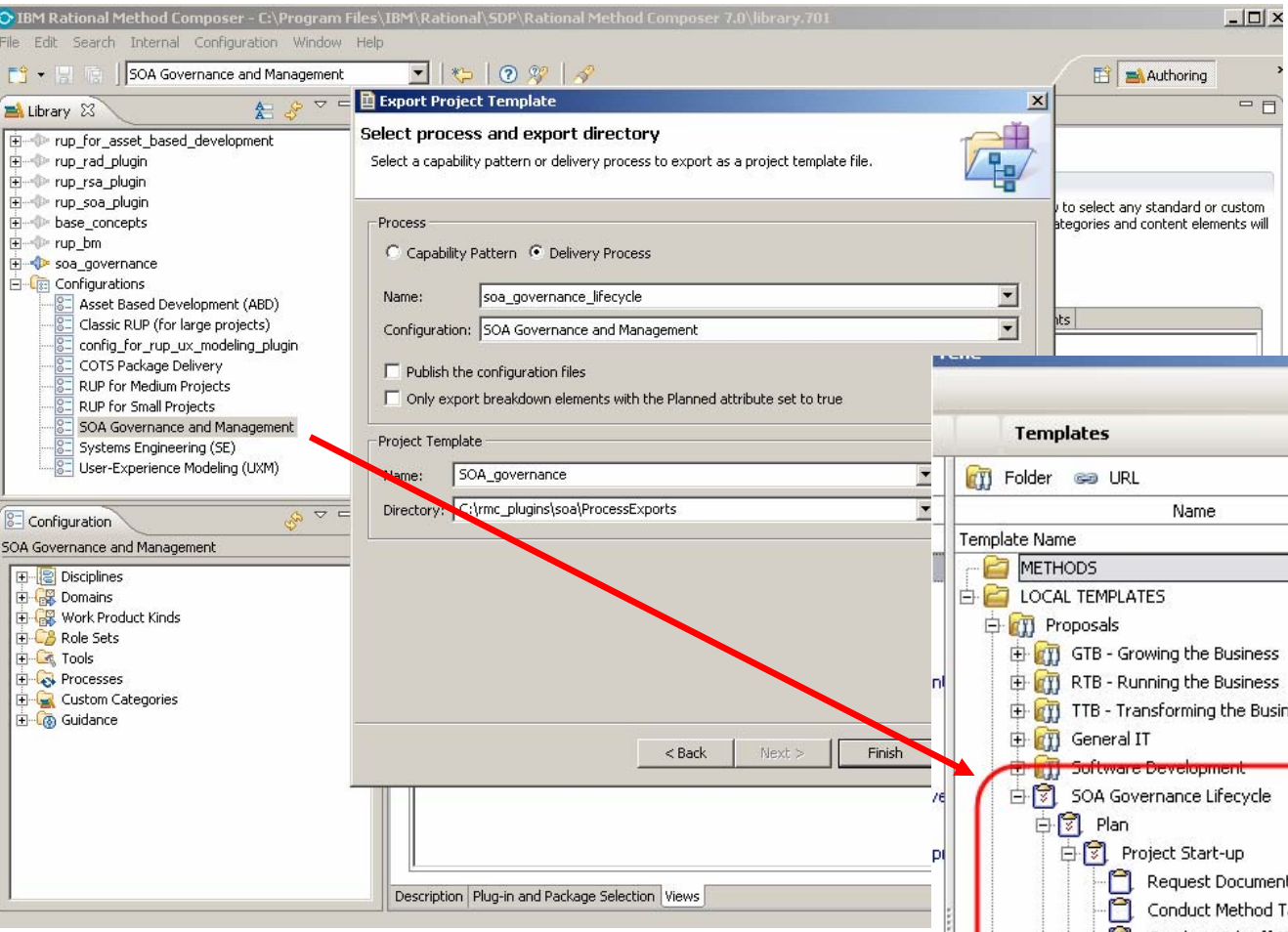
Process Example

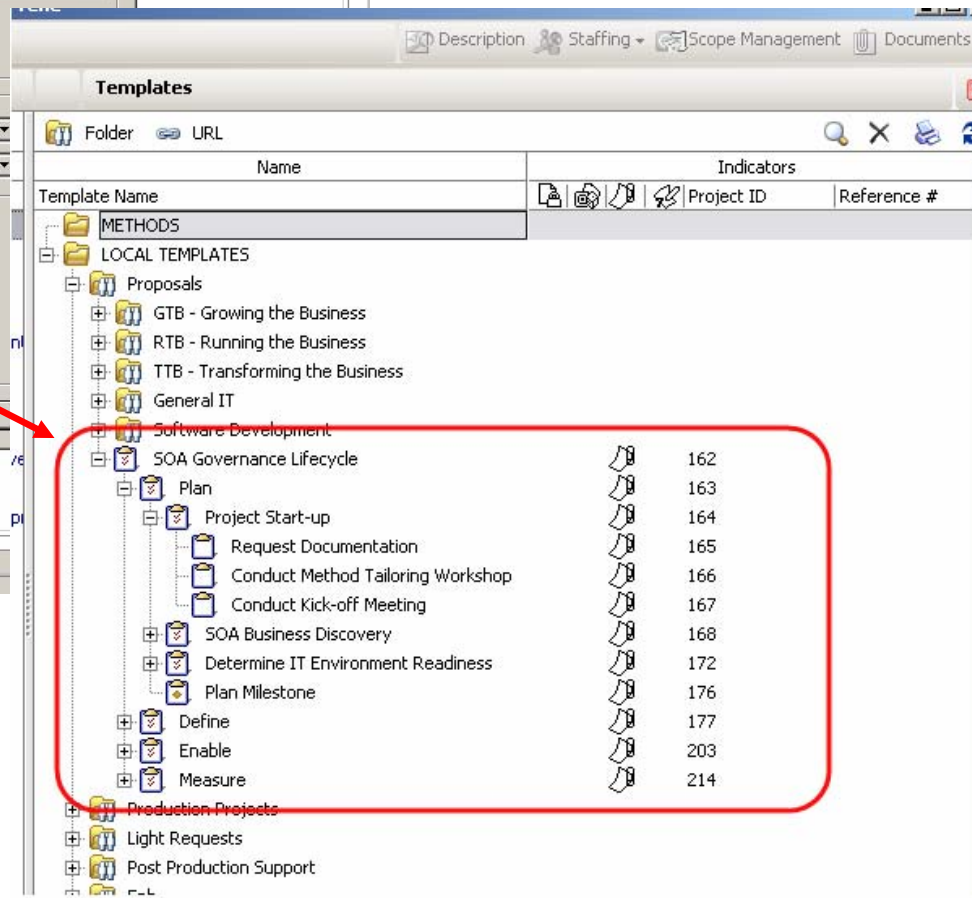












Your process is supported by the work breakdown structure, which was exported from Rational Method Composer, in Rational Portfolio Manger

DEMO

CIOs are facing technical challenges

Align IT and business goals

Manage risk

Control IT costs

Improve the project management discipline

Ensure regulatory compliance

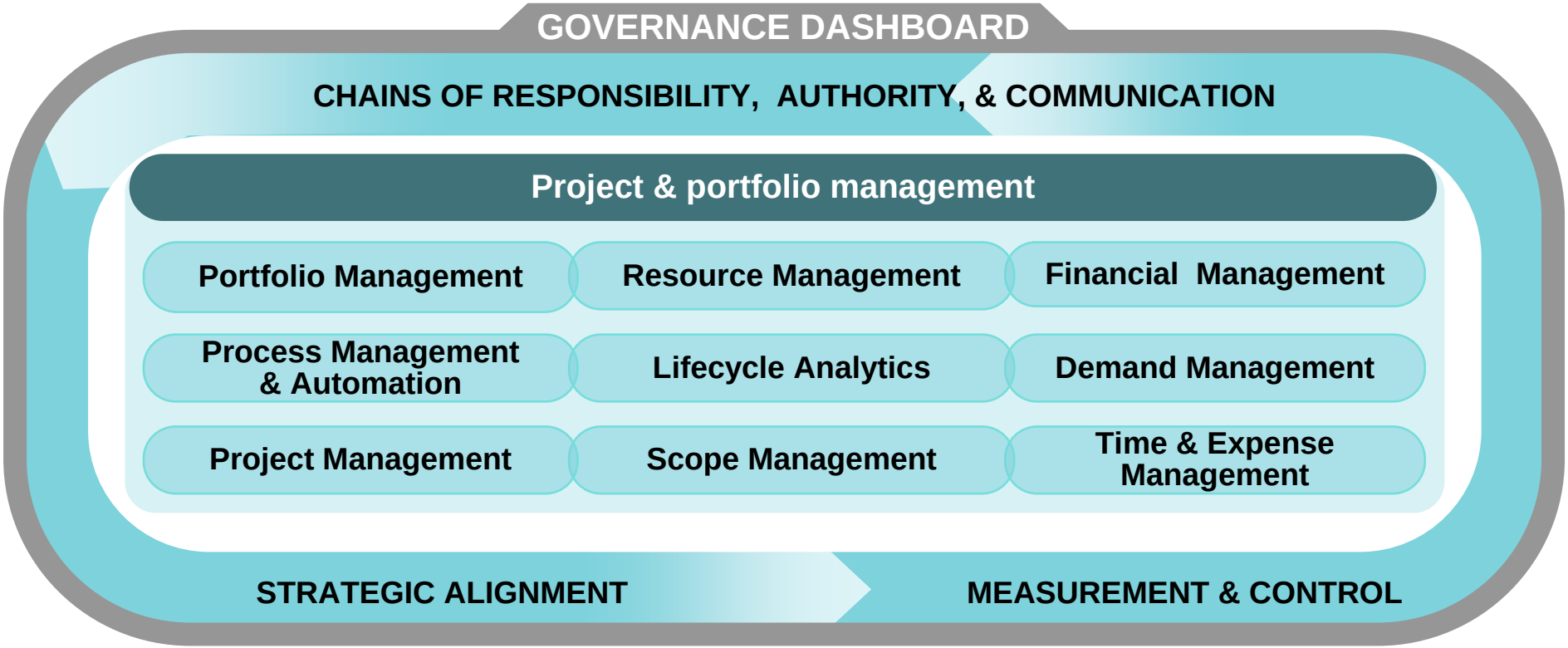
"CIOs expressed continued significant pressure to constrain spending increases while simultaneously investing to introduce innovative, customer facing and revenue-generating functionality in an increasingly networked environment."

— Morgan Stanley, Enterprise Software Industry Overview

Source: "The State of the CIO 2006," Edward Prewitt and Lorraine Cosgrove Ware, CIO, 2006

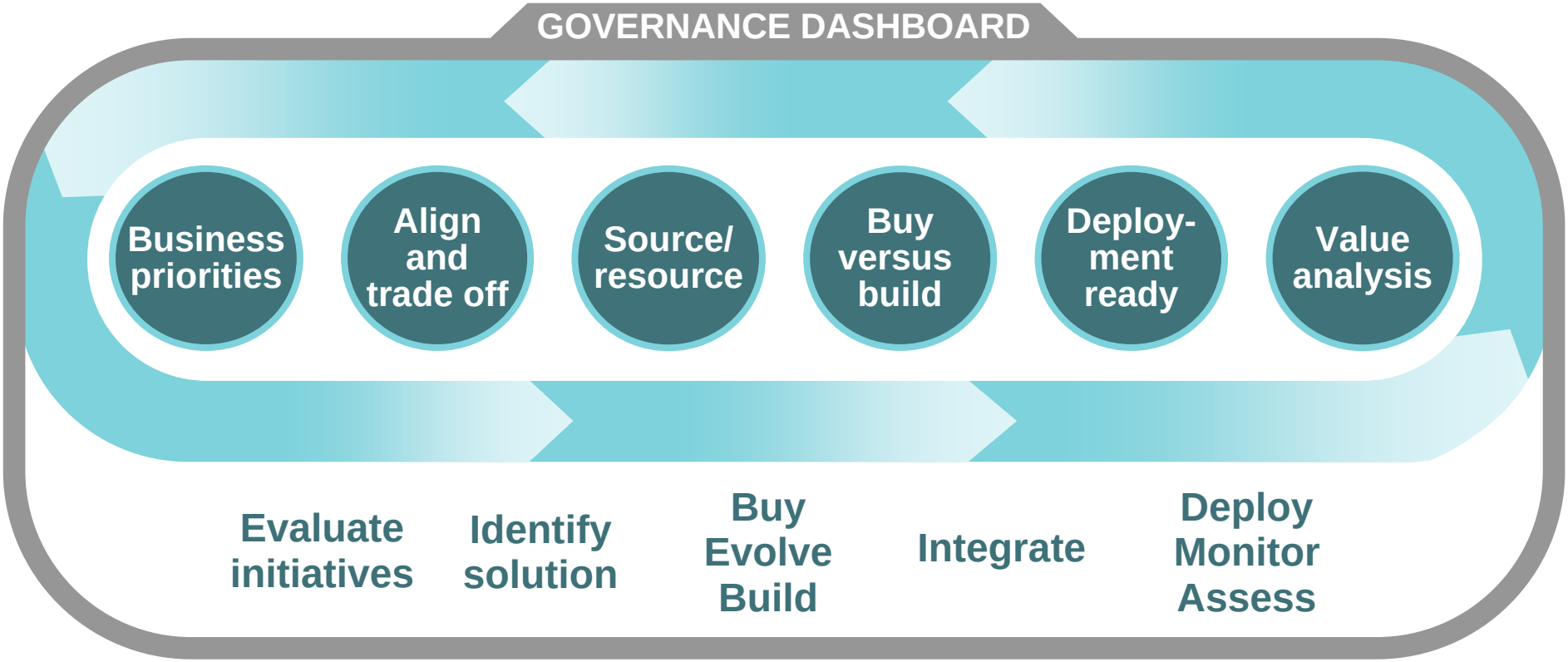
Governance with IBM Rational Portfolio Manager

Aligning priorities, process and people



From chaos to control

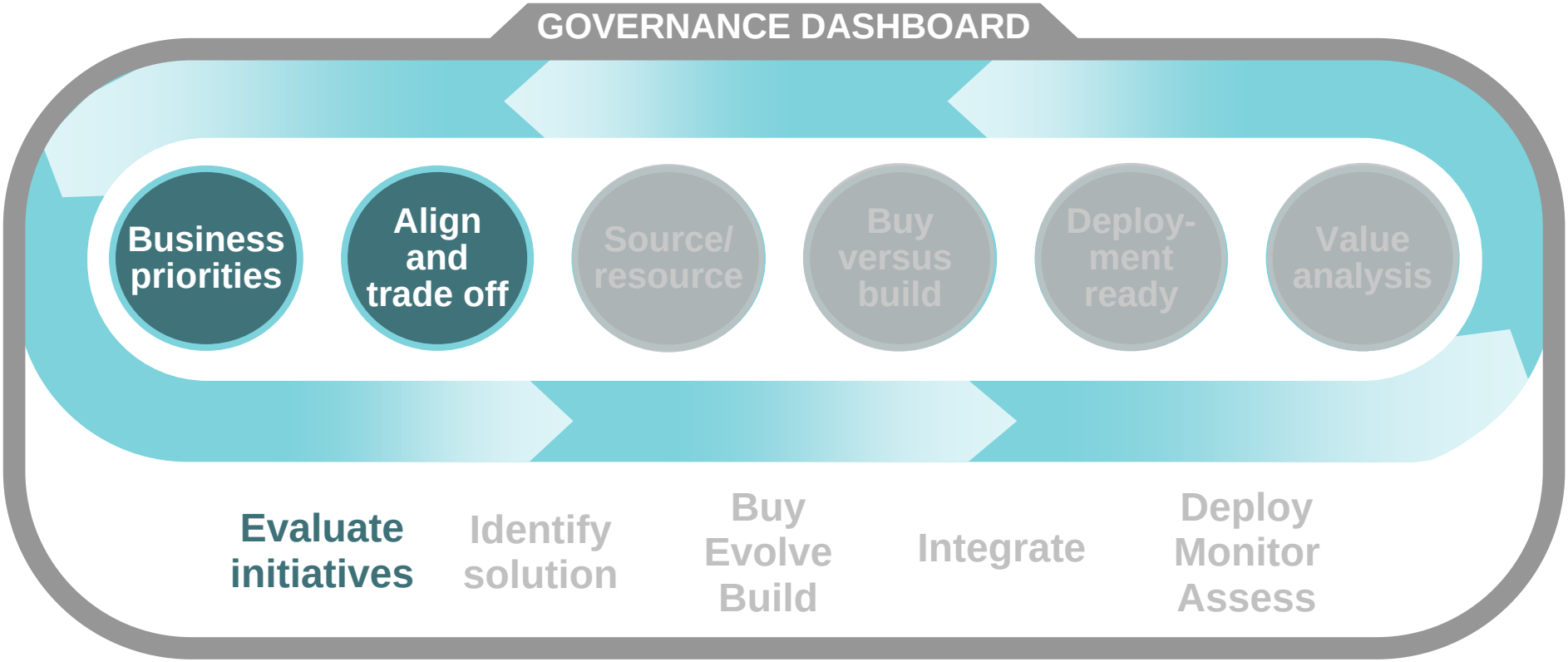
Business Driven Development lifecycle



Informed decisions drive development activities

Rational Portfolio Manager in action

Determining investment priorities



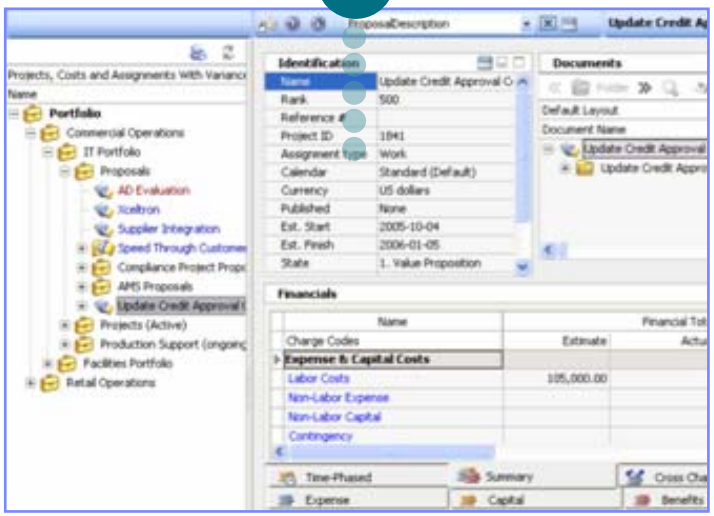
"Having a consolidated view of the project pipeline allows companies to realize savings of 20% to 45% by eliminating redundant projects, taking corrective action on those running off course, and selecting projects that provide the strongest paybacks."

Forrester Research "Integrated IT Management Drives Efficiency" February 2005

Rational Portfolio Manager in action

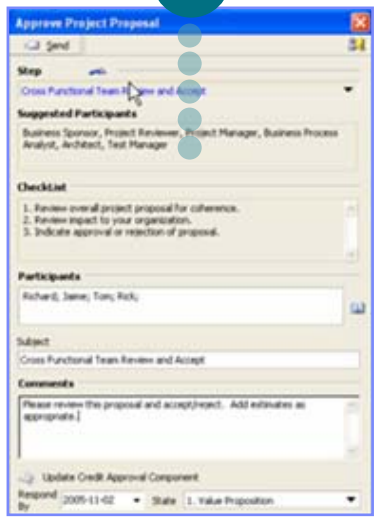
Evaluating risk and reward of competing initiatives

Project proposal submitted for planning and assessment



Consistent criteria used to assess and prioritize proposals

Auditable project approval authorizes effort

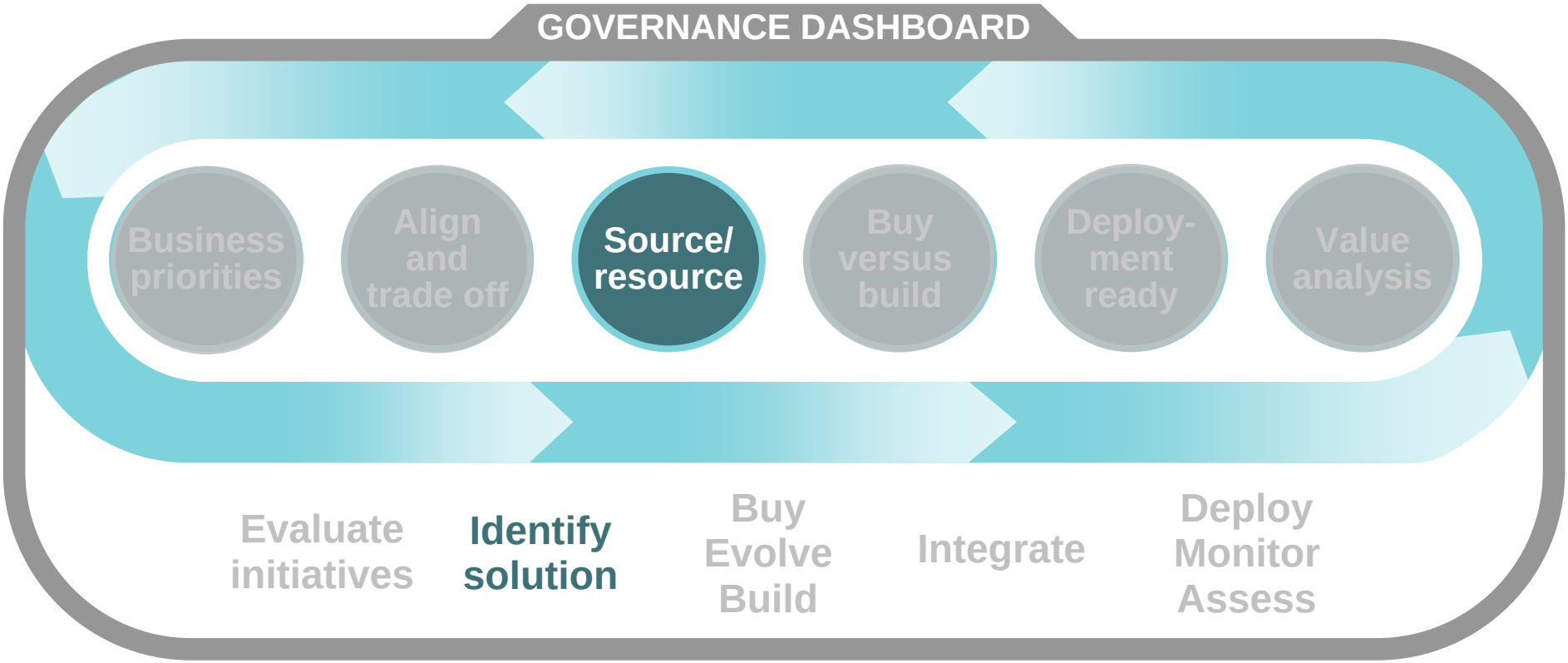


"Leveraging Rational Portfolio Manager, Information Management has earned a seat at the table for making strategic decisions. We are no longer viewed as a sunk cost or a necessary evil, we are viewed as an essential partner in Contact Energy's business."

Jos Kunnen, CIO, Contact Energy

Rational Portfolio Manager in action

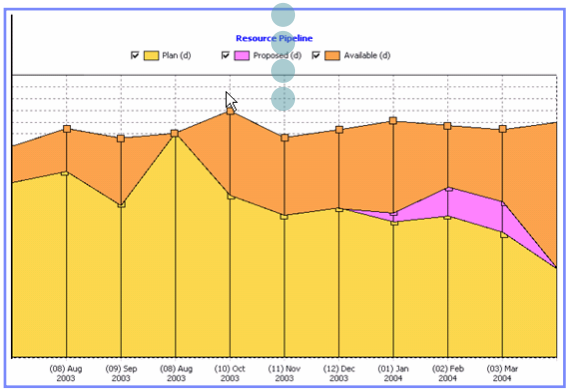
Global resource management



Rational Portfolio Manager in action

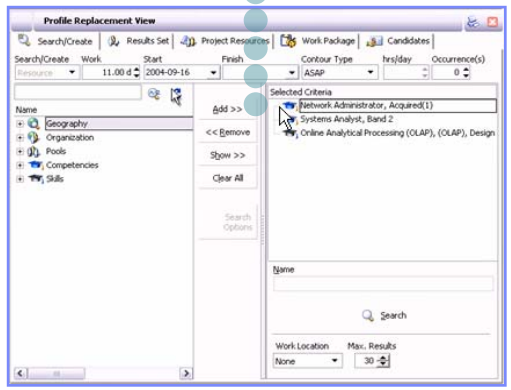
Forecast, plan and assign resources in a global environment

Supply and demand analyzed for early warning of spikes and shortages



What-if analysis optimizes resource allocation and demand scheduling

Globally distributed resources located and assigned in real-time

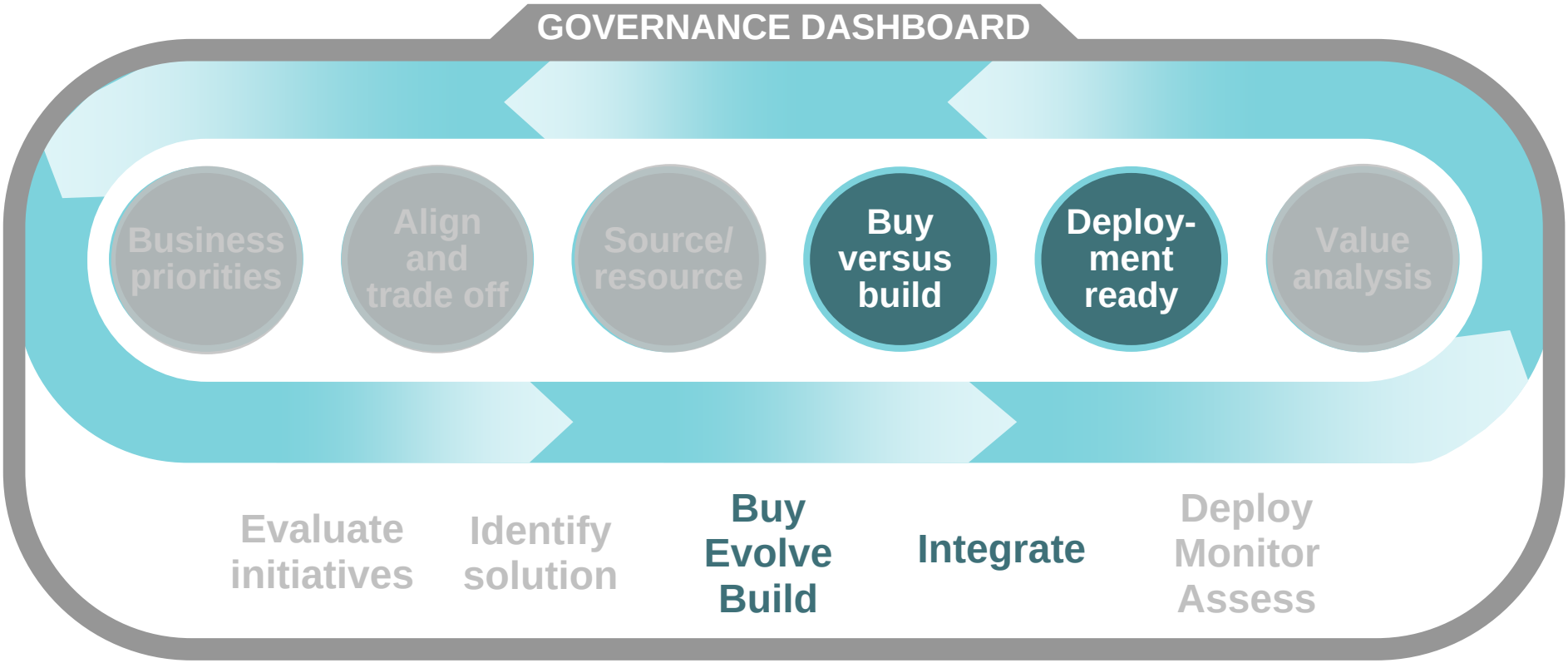


"IBM Rational Portfolio Manager has provided us with a borderless resource environment"

Joe Londa, IBM Engineering & Technology Services

Rational Portfolio Manager in action

Optimize execution of projects and processes



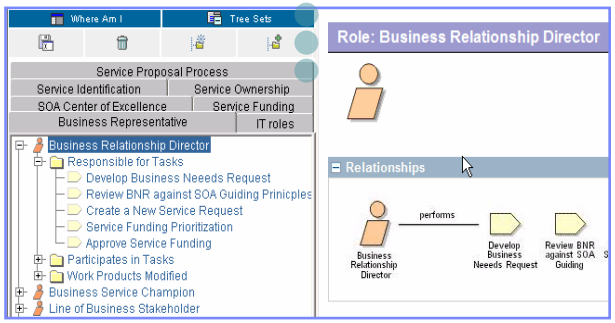
"Strategy without execution is hallucination."

Thomas Edison

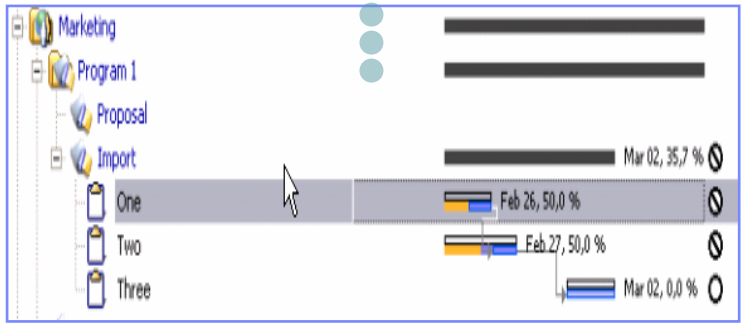
Rational Portfolio Manager in action

Turn best practice into daily practice

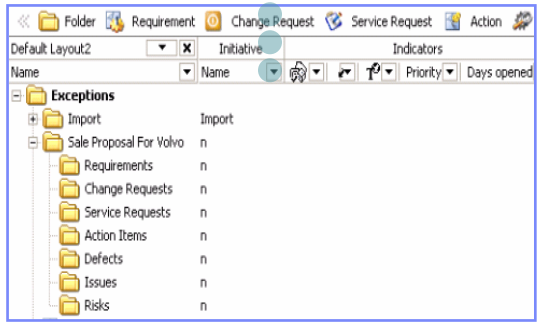
RUP best practices captured, standardized and deployed consistently to project teams



Centralized enterprise project management integrates RUP and project execution



Integrated scope management assesses the impact of issues, changes and risks

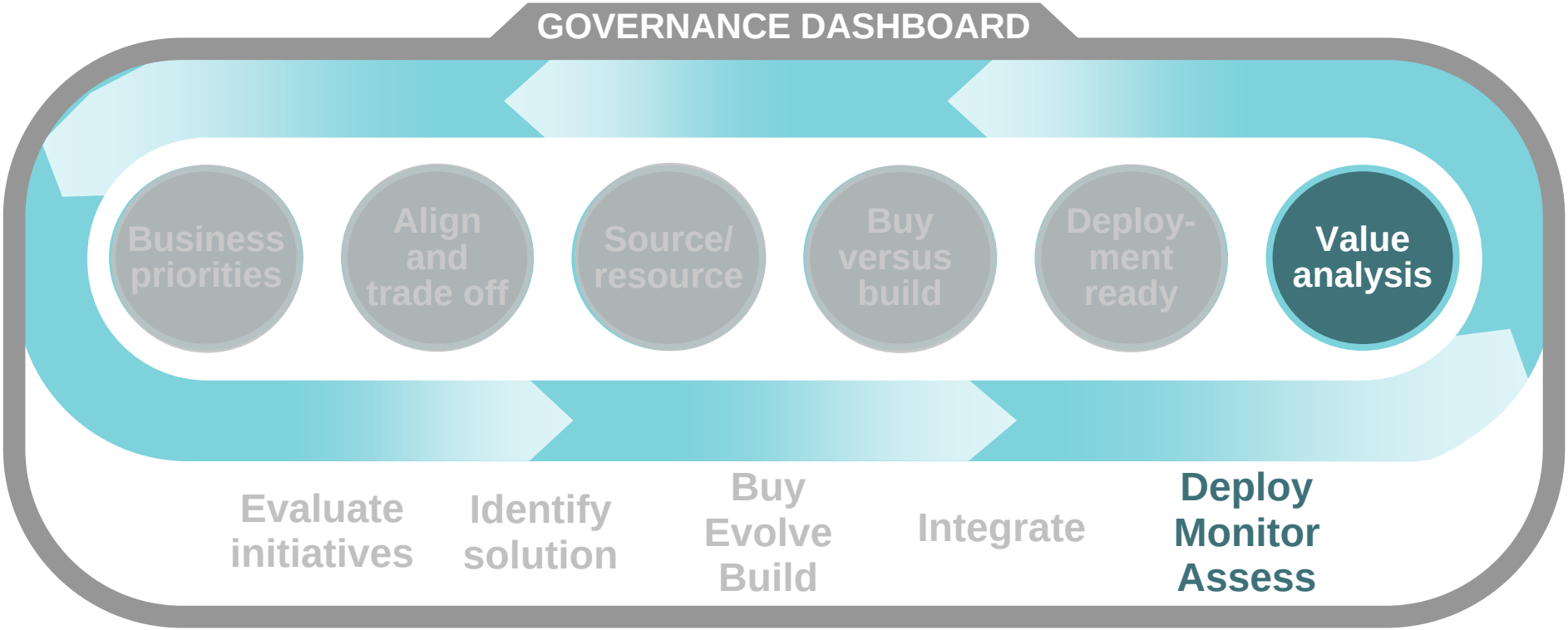


"Rational Portfolio Manager has raised our project management up to a higher level. Our project managers feel more professional having a professional grade tool."

John Kirkbride, Director of AME Delivery, SITA

Rational Portfolio Manager in action

Measure and control investments



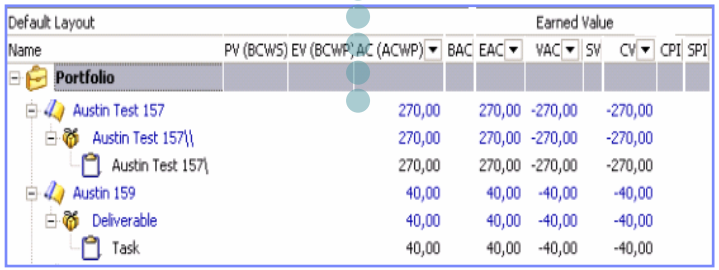
Only 31% of firms are able to track data to evaluate IT investment performance and benefits. Most financial institutions lack both the data and the business-oriented metrics needed to measure returns on IT investments, so accepting the status quo offers little chance for performance improvement.

"Reaching efficient frontiers in IT investment management" IBM Institute for Business Value, Dec 2004

Rational Portfolio Manager in action

Measure and control progress to ensure value creation

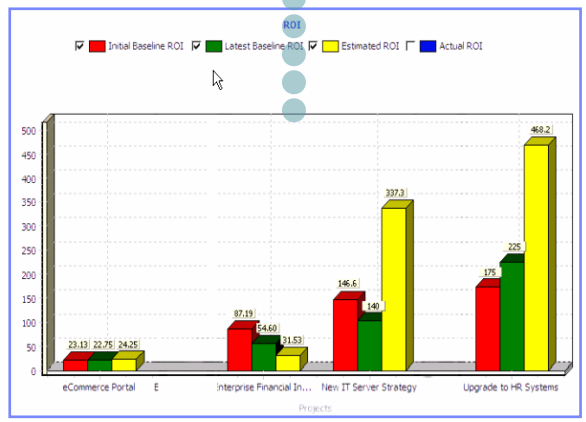
Calculate earned value to predict project performance



Default Layout										
				Earned Value						
Name	PV (BCWS)	EV (BCWP)	AC (ACWP)	BAC	EAC	VAC	SV	CV	CPI	SPI
Portfolio										
Austin Test 157			270,00		270,00	-270,00		-270,00		
Austin Test 157\\			270,00		270,00	-270,00		-270,00		
Austin Test 157\			270,00		270,00	-270,00		-270,00		
Austin 159			40,00		40,00	-40,00		-40,00		
Deliverable			40,00		40,00	-40,00		-40,00		
Task			40,00		40,00	-40,00		-40,00		

Early warning through business and technical trends in an integrated dashboard

Detailed analysis through dashboard drill down



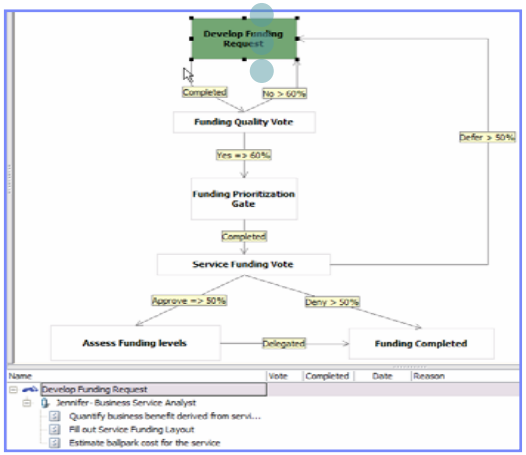
"Prior to Rational Portfolio Manager, we were forced to guess about costs at the beginning of each new project. Now we are able to access real costs from previous similar projects and make more educated cost projections."

Jos Kunnen, CIO, Contact Energy

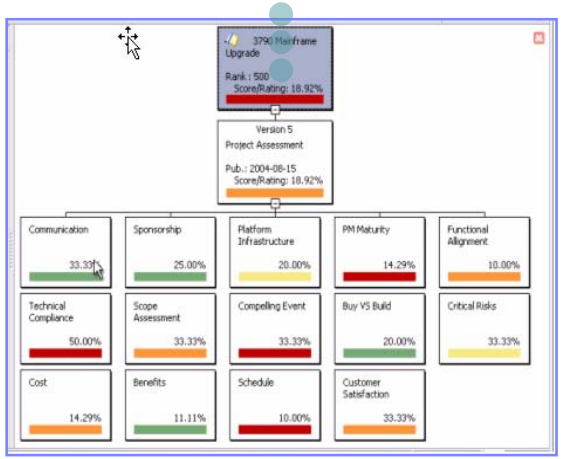
Rational Portfolio Manager in action

Ensure regulatory compliance and standards oversight

Audit-ready automated workflows enforce decision rights and responsibilities



Scorecards assess organization and project-level compliance



Systematic risk management at the organization, portfolio and project levels

"By 2006, public companies that do not adopt a compliance management architecture will spend 50 percent more annually to achieve Sarbanes-Oxley compliance"

Gartner

A role-based project portfolio management solution

IT & Executive Leadership

Program/Project Managers

Practitioners

- Achieve the Business Vision
- Deliver Business Value
- Plan a Balanced Approach
- Optimize Your Staffing Profile
- Regulate Your Financial Health
- React to Changing Needs
- Track the Expected Results

JSC “Svyazintek” enhances Program Management using Rational Portfolio Manager

IBM Global Business Services

The Goal: In the role of the Billing Transformation Program Prime Contractor JSC “Svyazintek” aims at enhancing and structuring Program Management areas to better manage the Program and track its realization.

The Approach: Automate key program and project management areas (planning, risk and issue mgt, document mgt, change mgt and reporting) by IBM Rational Portfolio Manager.

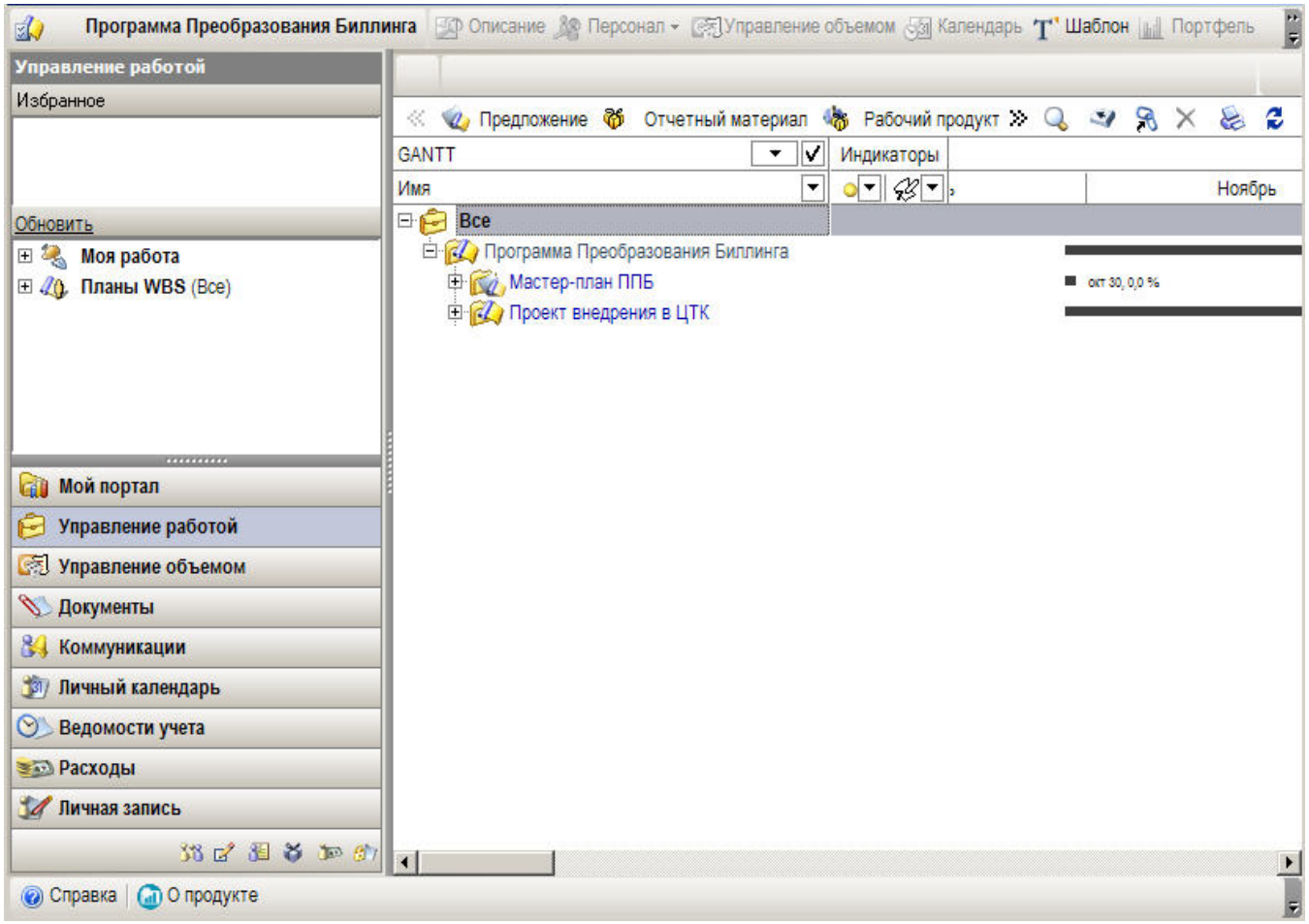
Challenge	Benefits
Be able to track and act quickly on Program and separate projects progress and issue resolution Ensure transparent Program and projects reporting and realization control	✓ Well structured Program and projects’ planning to the level of separate workstream’s tasks; ✓ Risk, issue and change request management tightly aligned to the plan tracking; ✓ Better document (deliverables and work products) versioning and approval control.

This is the first full-scale implementation of IBM Rational Portfolio Manager for telecommunication companies in Russia.

JSC “Svyazintek” enhances Program Management using Rational Portfolio Manager

IBM Global Business Services

IBM has made a pilot Rational Portfolio Manager User interface translation to Russian language



Contact Energy aligns Information Management and the business using Rational Portfolio Manager

The Goal: Contact Energy wanted to transform Information Management (IM) from a cost center to a strategic asset within the company.

The Approach: Aggressive organizational change to elevate IM credibility and performance supported and enforced by IBM Rational Portfolio Manager.

Challenge	Benefits
Be able to monitor and report on the success of projects	✓ Reporting Based on Real Data ✓ Improved Resource Utilization ✓ Real knowledge of true costs
Ensure resources are invested in projects delivering business value	✓ Positive funding decisions are based on business value ✓ IT has credibility with the business

"Rational Portfolio Manager allows me to report—with certainty—the precise value IM has delivered, and will deliver, to the business. Leveraging the product, IM is now an essential partner in the Contact growth plan."

Jos Kunnen, CIO, Contact Energy

Portfolio management at IBM enabled by Rational Portfolio Manager

Benefits

- Project value – improved efficiency and effectiveness of project teams
- Business unit value – executive decision support, improved resource utilization, early detection/reduction of troubled projects, improved Gross Profit
- Corporate value –single investment stream of project management practices, tools and training, and supports project management profession and certification

Examples

- “Rational Portfolio Manager has really opened up a window into the entire delivery world.”
  Richard Rothen IGS Application Management Services
- “As a geographically distributed organization, we use Rational Portfolio Manager to create a borderless resource environment.”
  Joe Londa, IBM Engineering & Technology Services
- Rational Portfolio Manager supports over 10,000 projects thousands of users in 60 countries worldwide

Customer success with IBM Rational Portfolio Manager

American Republic Insurance Company

PEARSON

THE WESTERN CAPE
DIE WES-KAAP
INTSHONA KOLONI

A HOME FOR ALL
'N TUISTE VIR ALMAL
IKHAYA LETHU SONKE

CCA
CORRECTIONS CORPORATION OF AMERICA

Biosense Webster
a Johnson & Johnson company

Atlantic Lottery Corporation

SITA
THE SKY IS NOT THE LIMIT

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON DC

FRIESLAND
FRIESLAND COBERCO DAIRY FOODS

ELSEVIER

MDL

Powering the Process of Invention™

ST. JUDE MEDICAL

ECLIPSYS
The Outcomes Company

DEMO

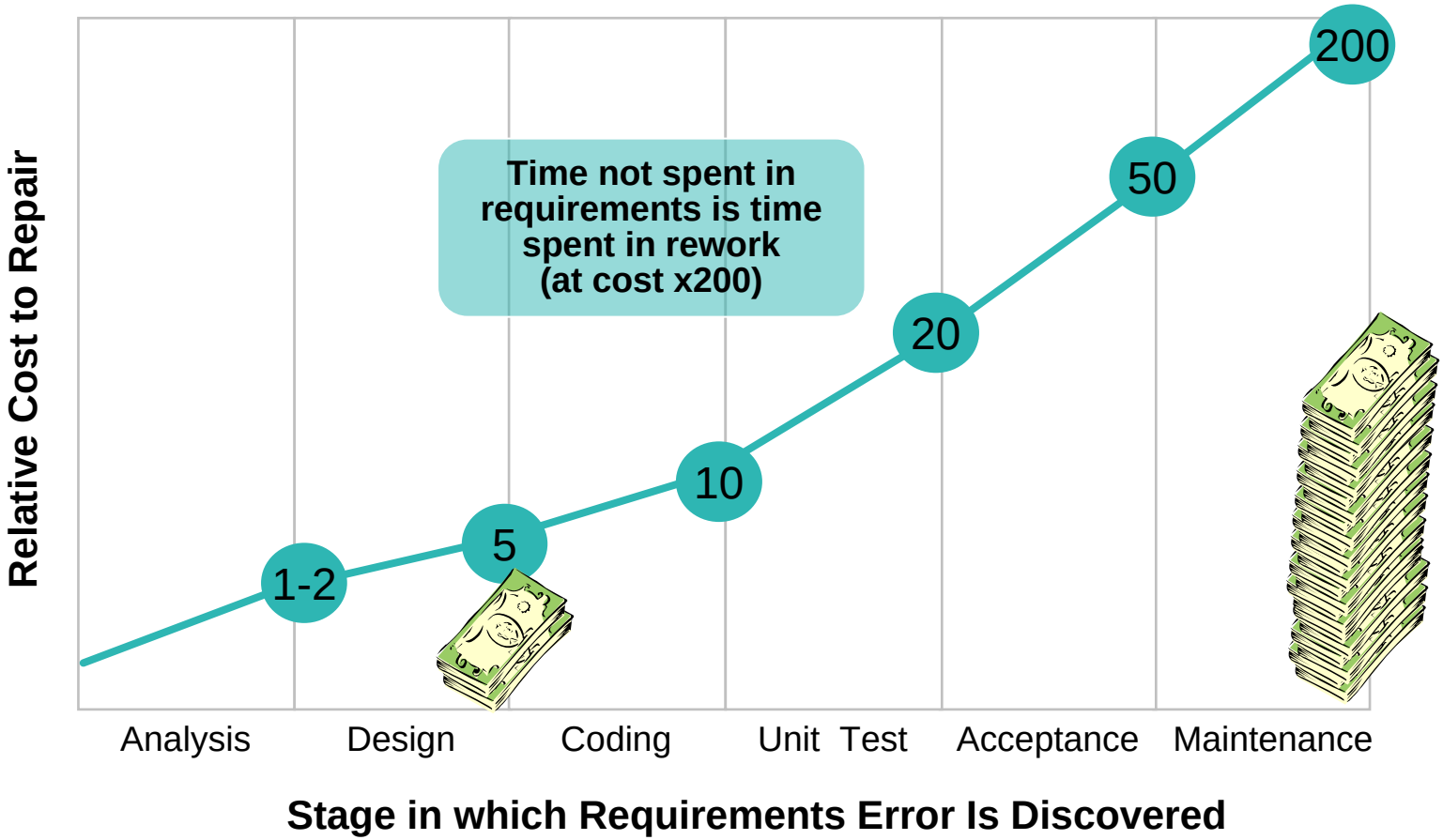
Agenda

- Adding value to your software
- Business problems and solutions that impact software and systems delivery
- Governance with IBM Rational Software Development Platform
  - Process and Portfolio Management
  - Integrated Requirements Management
  - Accelerating the global software delivery lifecycle
- Product enhancements in release 7.0

The Challenge: Managing Your Requirements

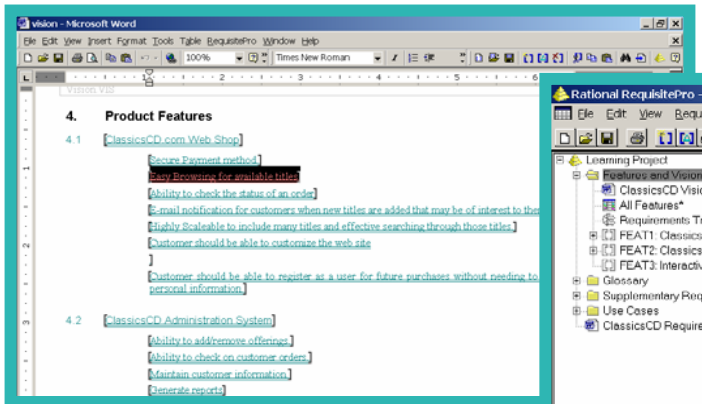
Unmanaged requirements cause unmanageable budgets

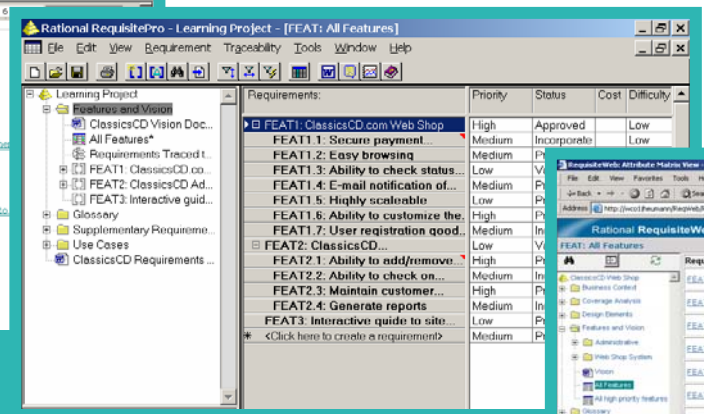
- Primary reason for excessive rework, delays, and poor quality

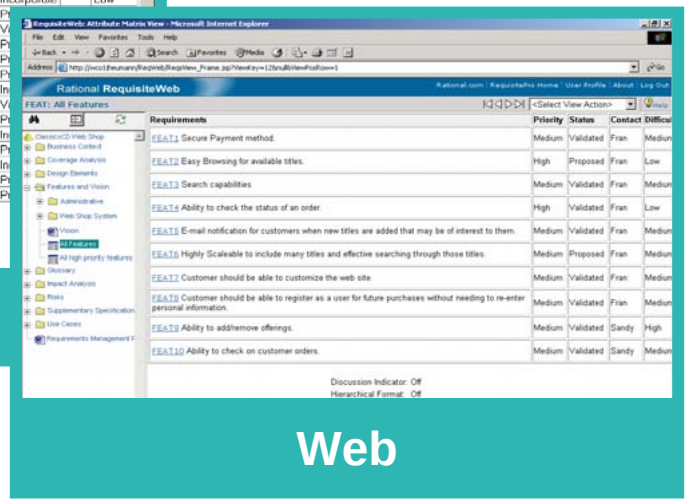


Managing Requirements with IBM Rational RequisitePro

- ✓ Keep your team on track
- ✓ 3 interfaces - work the way you want
- ✓ Document-centric or database-centric - your choice

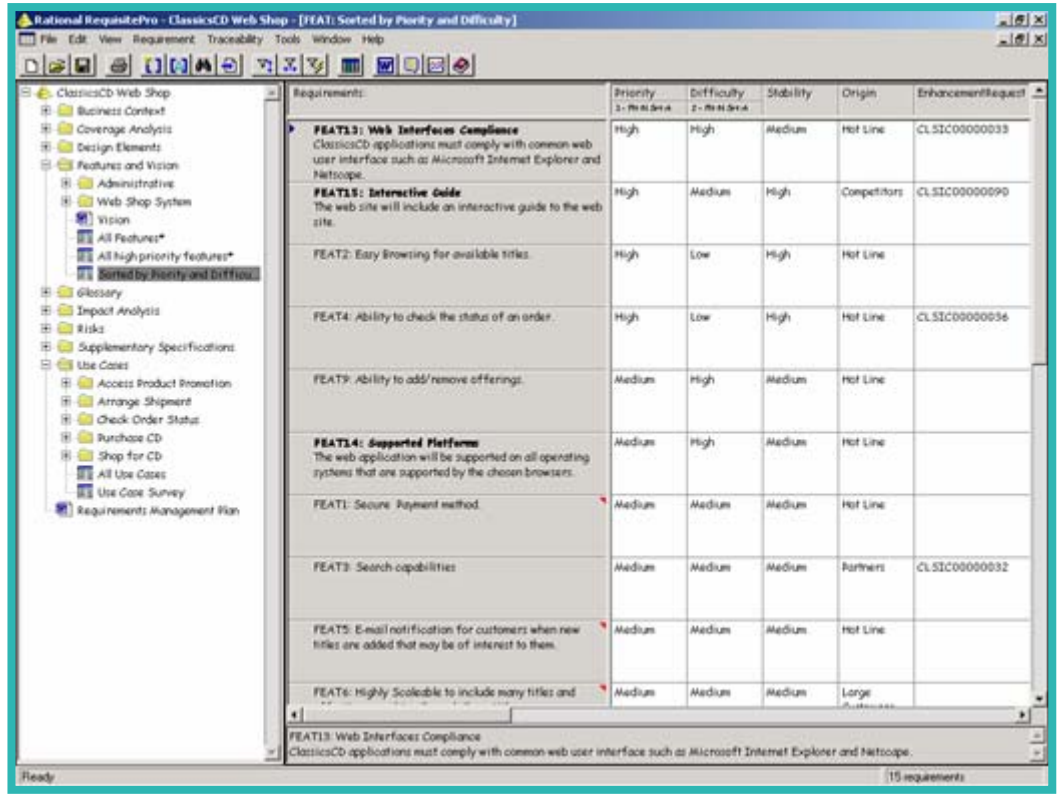




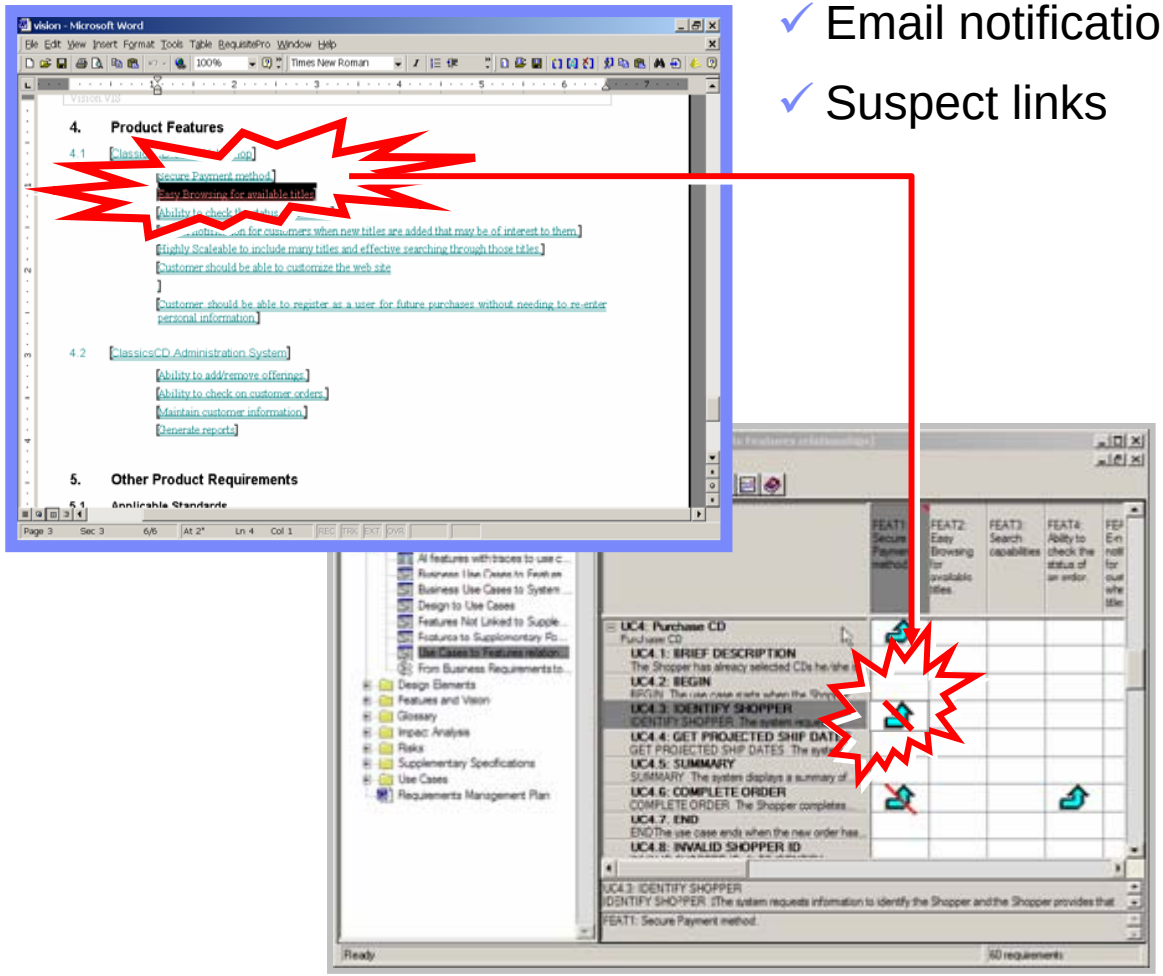


Organizing Requirements
Types, Attributes and Views

- ✓ User-defined requirement types
- ✓ User-defined attributes
- ✓ User-defined filters (views)
- ✓ Saved views



Communicating Changes and Their Impact



- ✓ Email notification of changes
- ✓ Suspect links

Subject: Requirement revision - Learning Project - Use Cases: SUPP1

SUPP1: Interface guidelines

Revision #: 1.0018
Version Label:
Date Time: 2004-07-01 13:00:04
Author: Unknown
Change Description: Created trace relationship to FEAT11.
Created trace relationship from FEAT3.

Revision #: 1.0017
Version Label:
Date Time: 2004-07-01 12:59:48
Author: Unknown
Change Description: DIFFICULTY: Medium - Low.
Requirement Text Changed.
REQTEXT: The system shall follow standard interface guidelines. dfg dgdgf

SUPP1: Interface guidelines

Text: The system shall follow standard interface guidelines. dfg dgdgf
Package: Project Root Package\Supplementary Requirements
Location: C:\Program Files\Rational\RequisitePro\samples\Learning_Project-Use_Cases\Supplementary Specification.SUP
Priority:
Status: Validated
Difficulty: Low
Stability: Low
Contact:
Revision Notification: Nabil, mario

Traces from: FEAT3
Traces to: FEAT11

Parent: None
Children: None

"With Rational RequisitePro's suspect links, my team members and I can immediately see changes that are made…"

Jason Oliver, Kodak

Live Integrations

Rational Software Architect

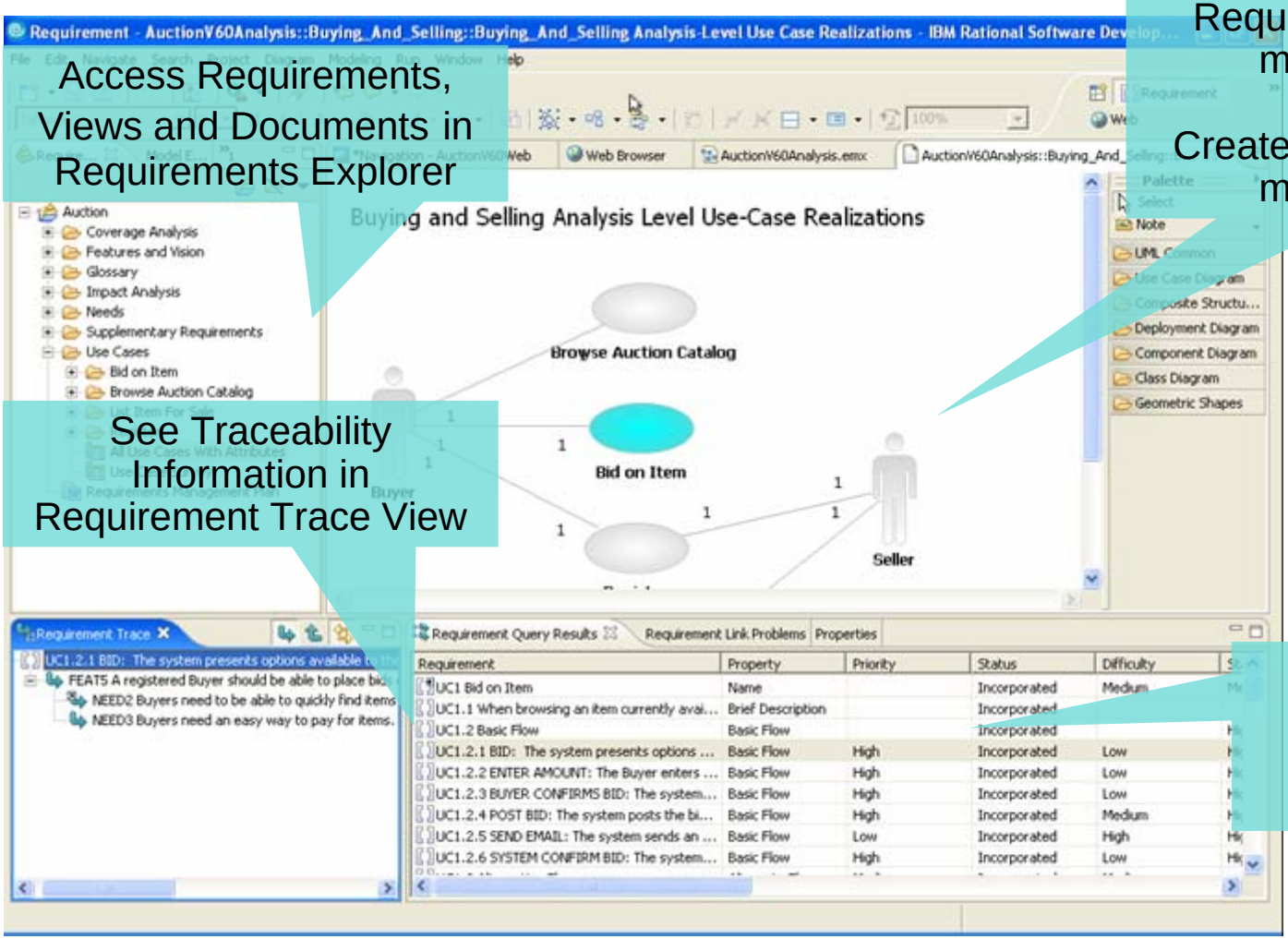
Access Requirements, Views and Documents in Requirements Explorer

Drag and Drop Requirements to create model elements

Create requirements from model elements

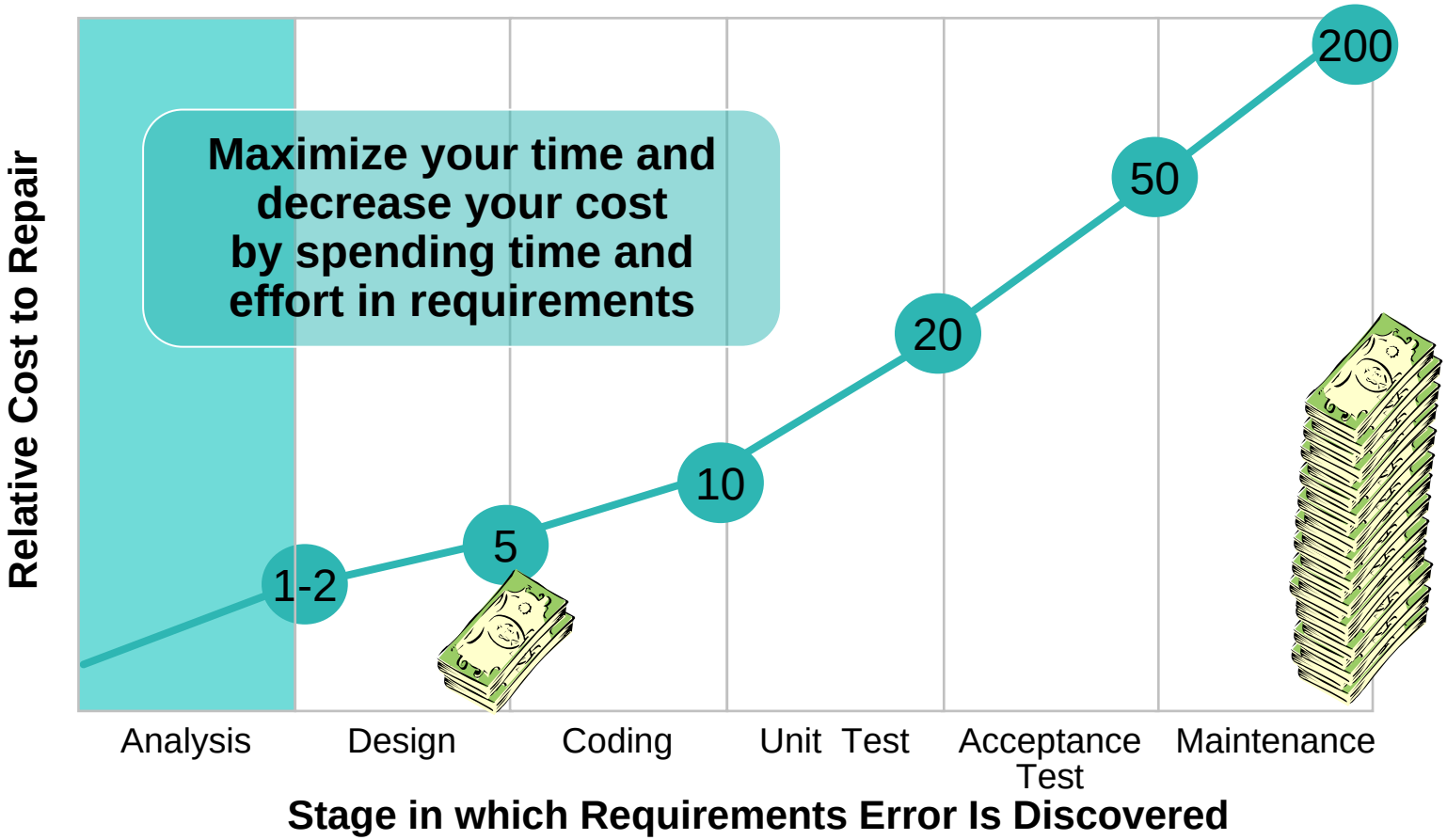
See Traceability Information in Requirement Trace View

View and Edit Requirements in Requirement Query Results View



Summarizing

Keep your team on track and out of the red zone with IBM Rational RequisitePro



Agenda

- Adding value to your software
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- Governance with IBM Rational Software Development Platform
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  - Accelerating the global software delivery lifecycle
- Product enhancements in release 7.0

Accelerating the global software delivery lifecycle

IBM Rational Software Development Platform, v7.0

Flexible, integrated test management across distributed teams

New!

- Easily configure, control and enforce global test management processes
- Single-point lifecycle management of testing *and* project change
- Transparency through integrated test analytics via project and portfolio dashboards
- **Result**: Single point, real-time view of global delivery status with lifecycle analytics

Closed-loop software delivery management

New!

- IBM Rational Build Forge for automated build and release management
- Rational and Tivoli integrations for tracking and auditing assets in production
- **Result**: Closed loop management from requirements *through* production

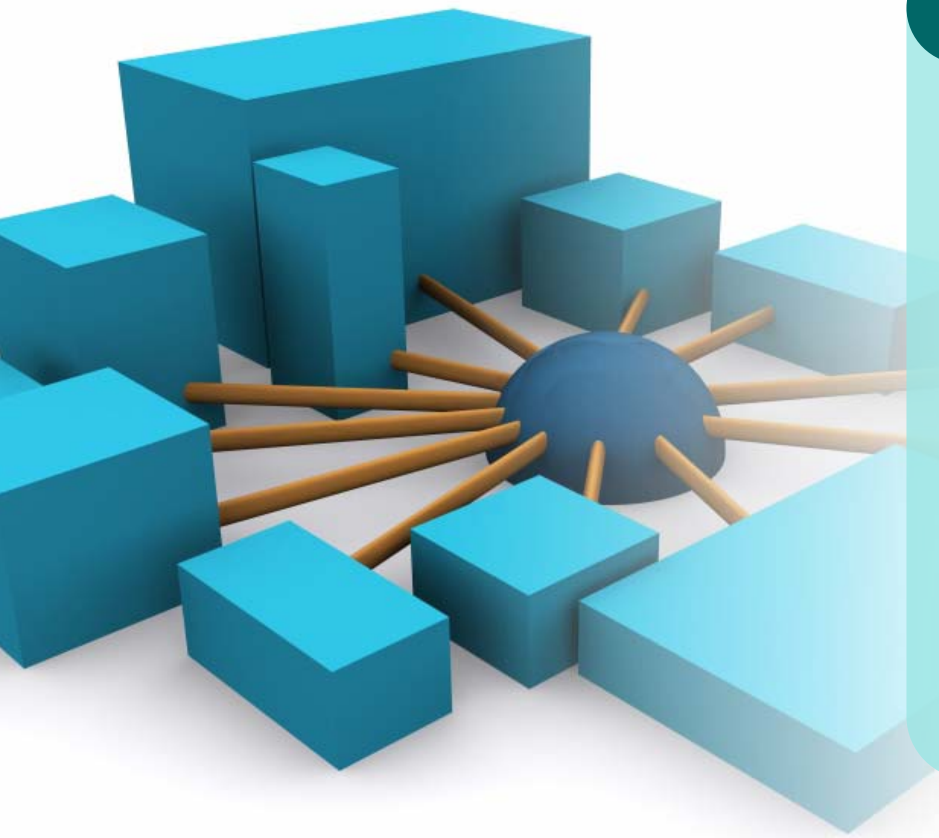
Extended compliance support

New!

- Improved lifecycle traceability of globally distributed artifacts
- Announcing:
  - Compliance Management service offering, web-based training and new Redbook
  - Rational Unified Process Plug-in for Compliance Management
- **Result**: Comprehensive view of compliance-related artifacts with dashboard reporting

The hub for life-cycle management

Govern the test and development process



IBM Rational ClearQuest

Test **Change** **Defects**

- Single project view
- Global test project coordination
- Configurable, enforceable processes
- Extensible test ecosystem

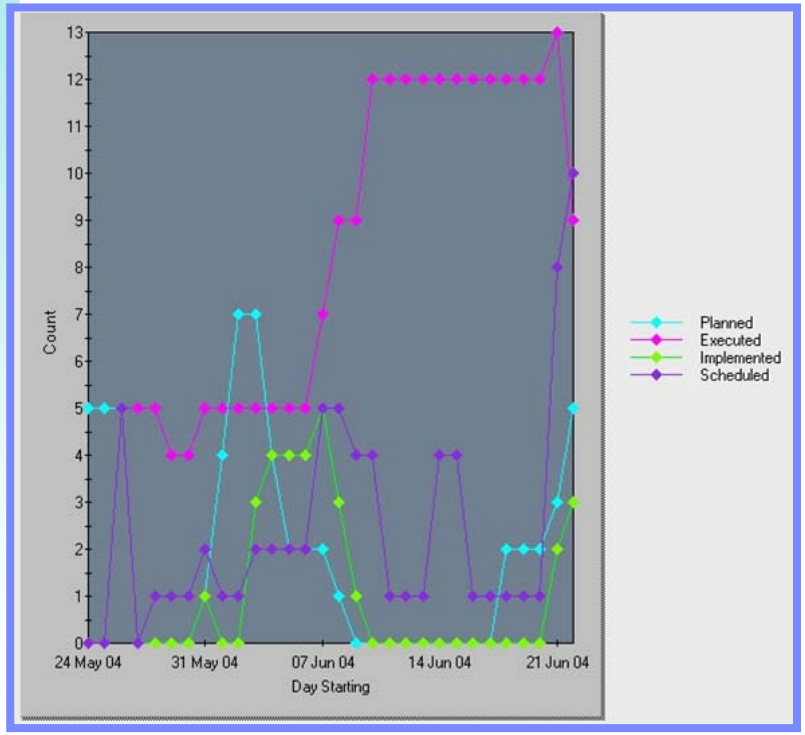
Single project view

Single solution to manage tests, defects and project change

Benefits:

- **Single reporting solution for all development metrics**
- **Traceable, auditable relationships between development, test and project artifacts**
  - Manages test planning, test results, quality metrics, and defects
  - Central repository with integrated version control
  - Comprehensive, customizable quality metrics reports
  - Centralized user management

Defect Trending



IBM Rational ClearQuest

Accelerating Global Software Delivery

Delivering real software value

SIEMENS

"The enhanced traceability that IBM Rational now provides helps Siemens' medical group adhere to FDA compliance requirements. Quite simply, without this functionality, our products would not meet FDA approval and therefore could not go to market. For my company, e-signatures and deployment tracking are an absolute must."

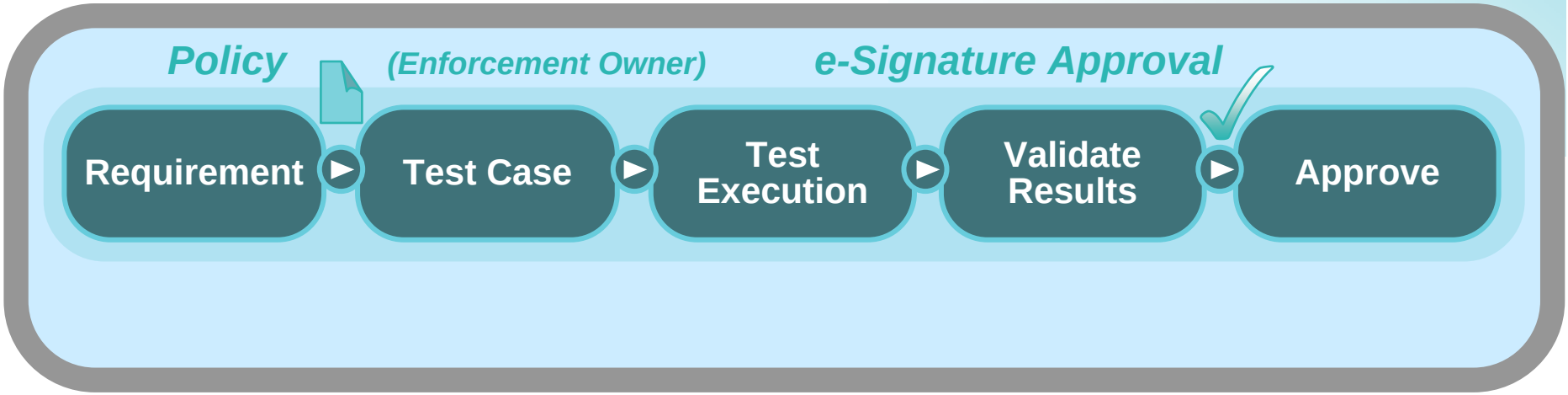
- Rainer Ersch
Siemens AG Corporate Technology, Principle Engineer
Rational Information Broker at Siemens

Test Management Across Distributed and Mainframe Environments

IBM Rational ClearQuest Test Management

- Process Customization
- Integrated test execution
- Distributed test management

- Rational Functional Tester
- Rational Manual Tester
- Rational Performance Tester
- Rational Performance Tester for z/OS
- Rational Functional Tester Extension for Terminal-based Applications
- Test tools supported by Eclipse/TPTP Framework
- SPI Dynamics QAInspect



IBM Rational ClearQuest

Integrated, enterprise test management

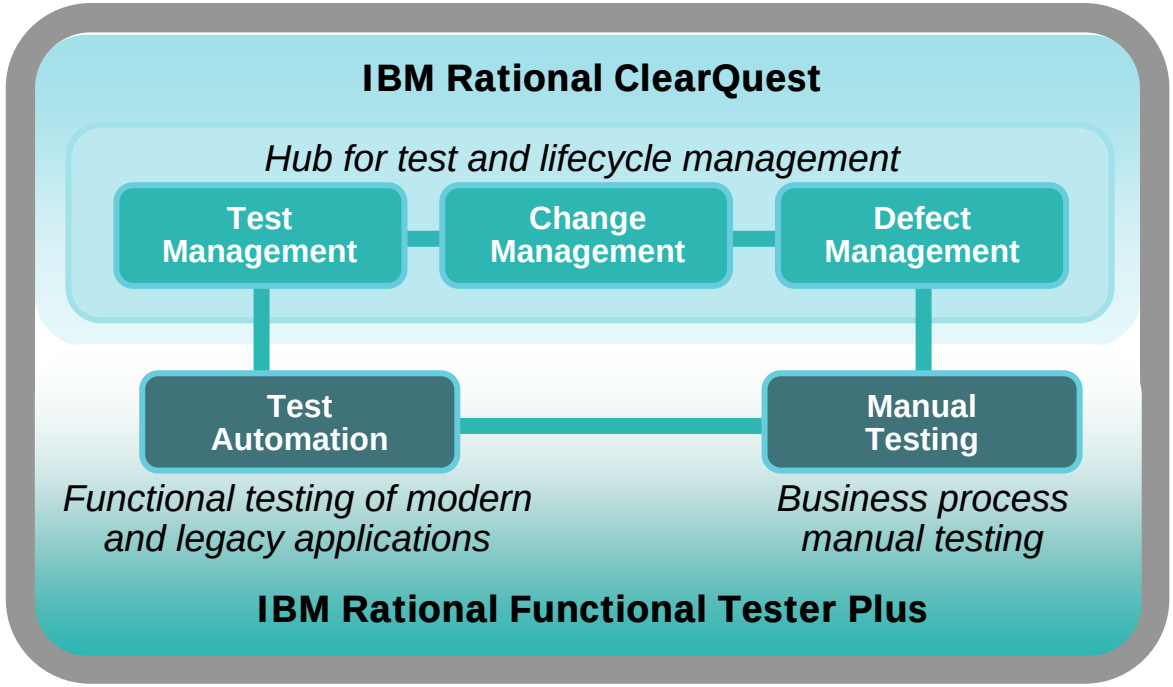
“The new test management capability in IBM Rational ClearQuest opens up a whole new realm of possibilities for more closely linking our test and development efforts in a more consistent and standard fashion. By providing the same environment for our developers and testers it ensures that each group is 'on the same page' and talking the same language.”

–Jack Sussmilch, Sr. Tools Specialist, Vision Fire and Security

IBM Rational ClearQuest and Functional Testing

NEW!

- Enterprise scalable, distributed test management
- Test process enforcement and customization
- Quality metrics
- Integrated test management and test automation tools
- Support for testing J2EE/Java, Web, .NET, Visual Basic, C/C++ and many other client-server software applications



IBM Rational ClearQuest
IBM Rational Functional Tester
IBM Rational Manual Tester
IBM Rational Robot

DEMO

Accelerating the global software delivery lifecycle

IBM Rational Software Development Platform, v7.0

Flexible, integrated test management across distributed teams

New!

- Easily configure, control and enforce global test management processes
- Single-point lifecycle management of testing *and* project change
- Transparency through integrated test analytics via project and portfolio dashboards
- **Result**: Single point, real-time view of global delivery status with lifecycle analytics

Closed-loop software delivery management

New!

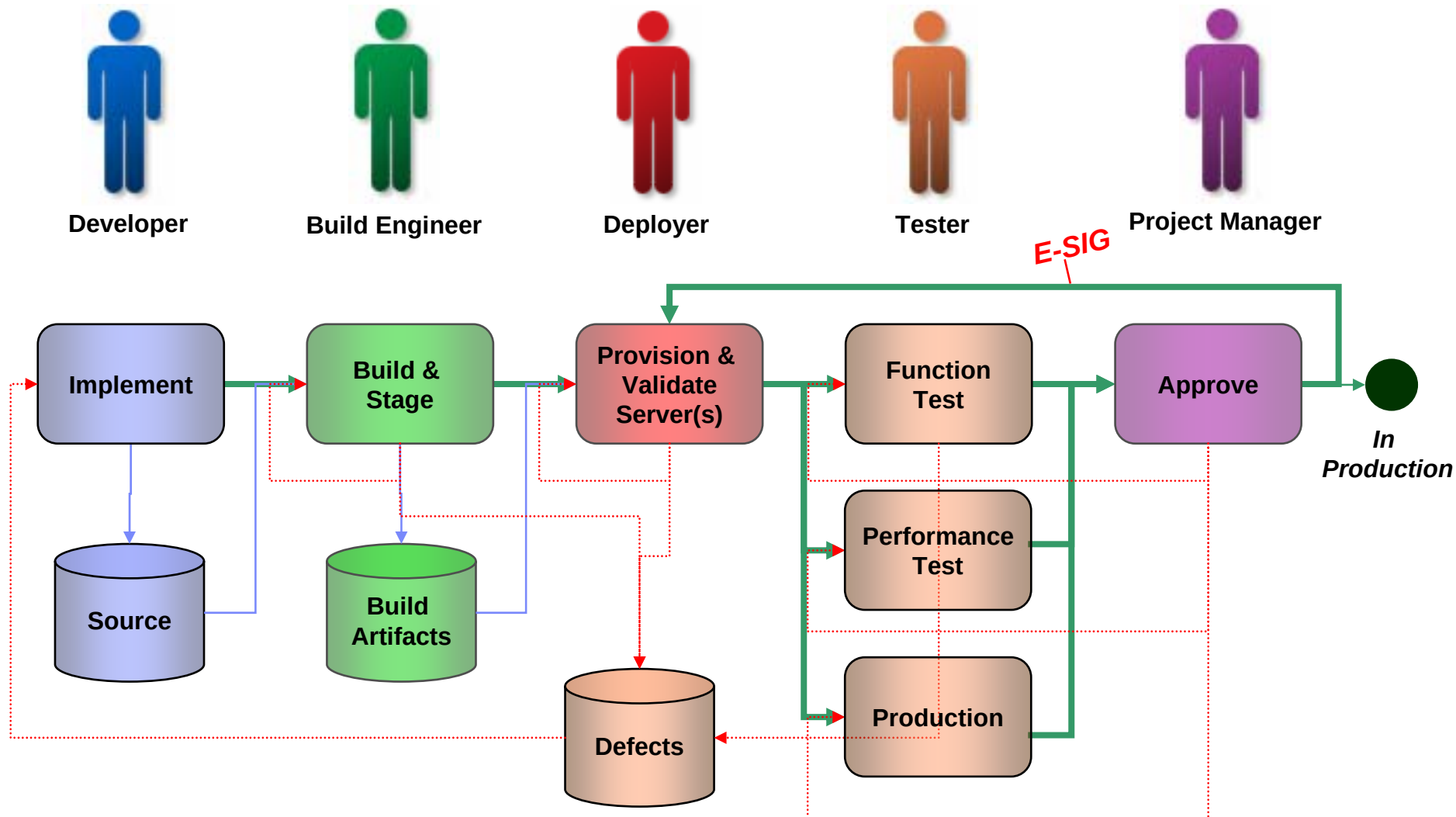
- IBM Rational Build Forge for automated build and release management
- Rational and Tivoli integrations for tracking and auditing assets in production
- **Result**: Closed loop management from requirements *through* production

Extended compliance support

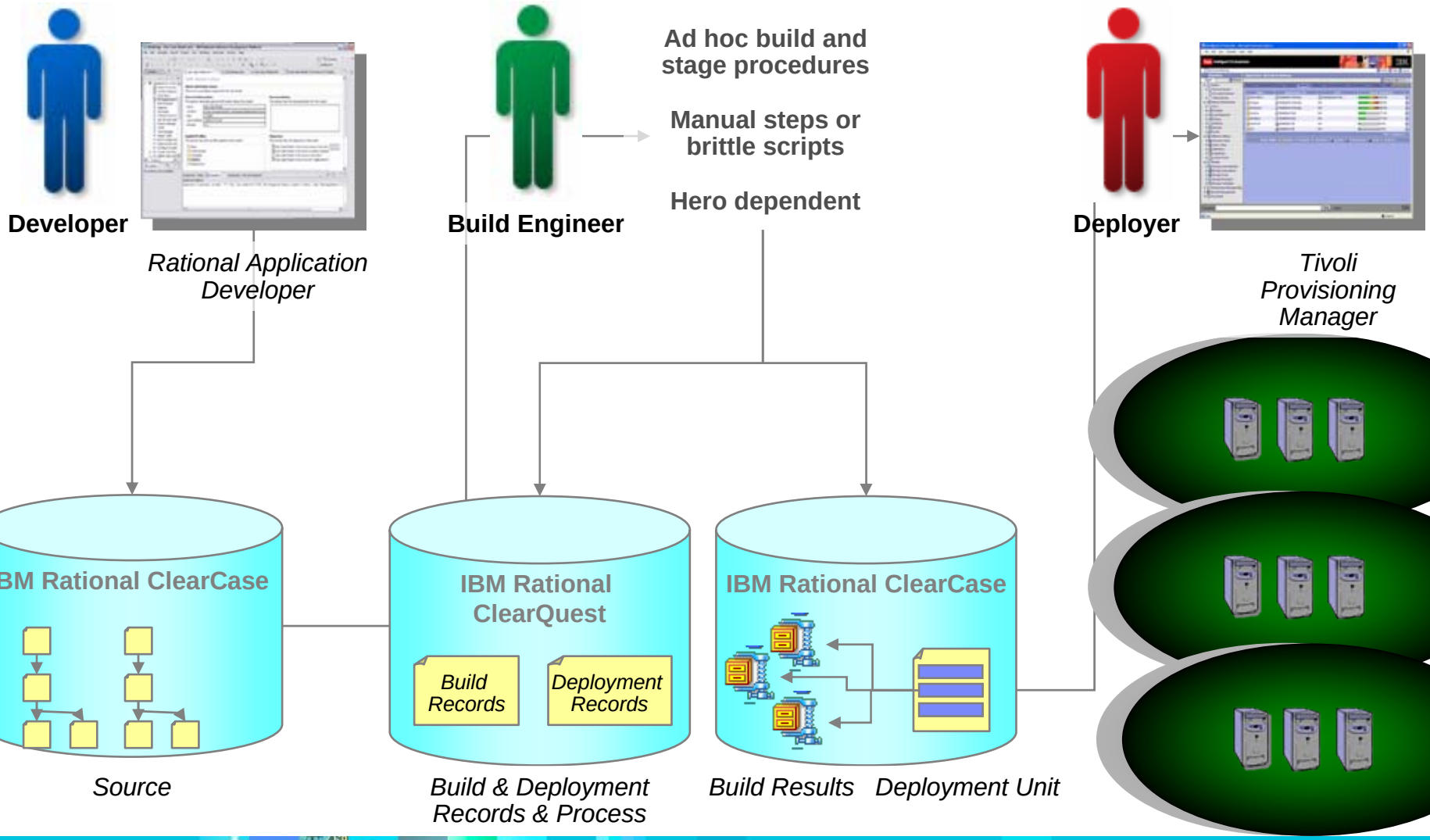
New!

- Improved lifecycle traceability of globally distributed artifacts
- Announcing:
  - Compliance Management service offering, web-based training and new Redbook
  - Rational Unified Process Plug-in for Compliance Management
- **Result**: Comprehensive view of compliance-related artifacts with dashboard reporting

Managing the Build and Deployment Process



Managing and Automating the Process



IBM Software Configuration Management Offerings

Benefits

- Quickly respond to change
- Develop anytime, anywhere
- Ensure predictable results
- Promote and support reuse

Capabilities

- Change and asset management
- Build and release management
- Flexible workflow support
- Traceability across the lifecycle

Key Products	Project Manager	Developer	Tester	Analyst
IBM Rational ClearCase	✓	✓	✓	
IBM Rational ClearQuest	✓	✓	✓	✓
IBM Rational Team Unifying Platform	✓	✓	✓	✓
IBM z/OS SCLM Suite		✓		

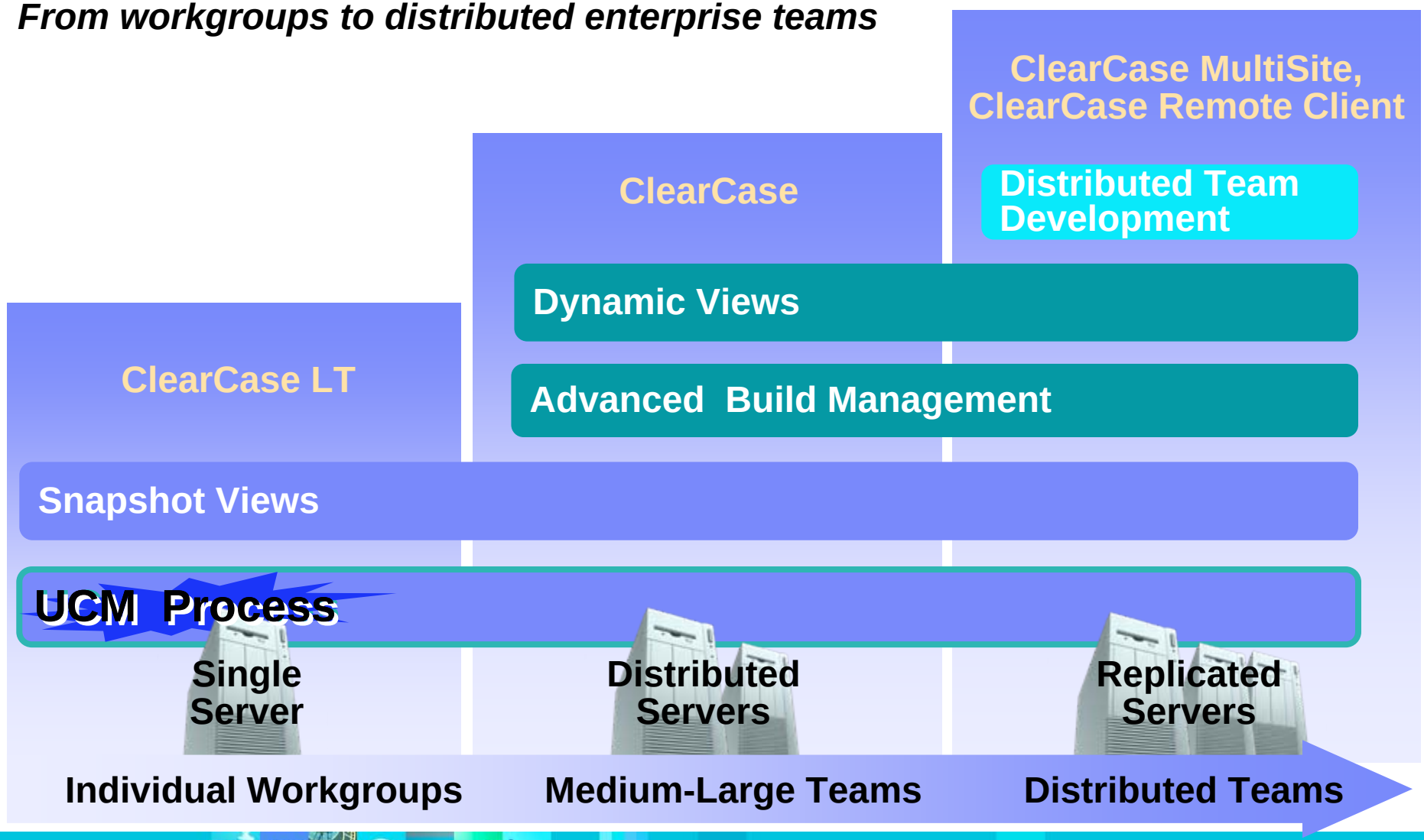
The problem with unmanaged change

Slow releases, poor quality, no predictability

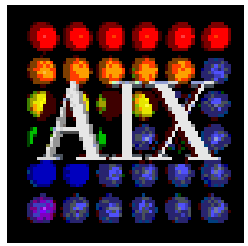
- Poor release integrity
  - Files get lost and cause recurring problems
- Quality depends on error prone, redundant tasks
  - Manual examination of builds
  - Manual mapping of files to tasks
  - Manual merging of changes
  - Manual activity reporting
- Lack of communication
  - What to work on?
  - What's important?
- Difficult to determine project status
  - No connection between activities and assets

IBM Rational software configuration management

From workgroups to distributed enterprise teams

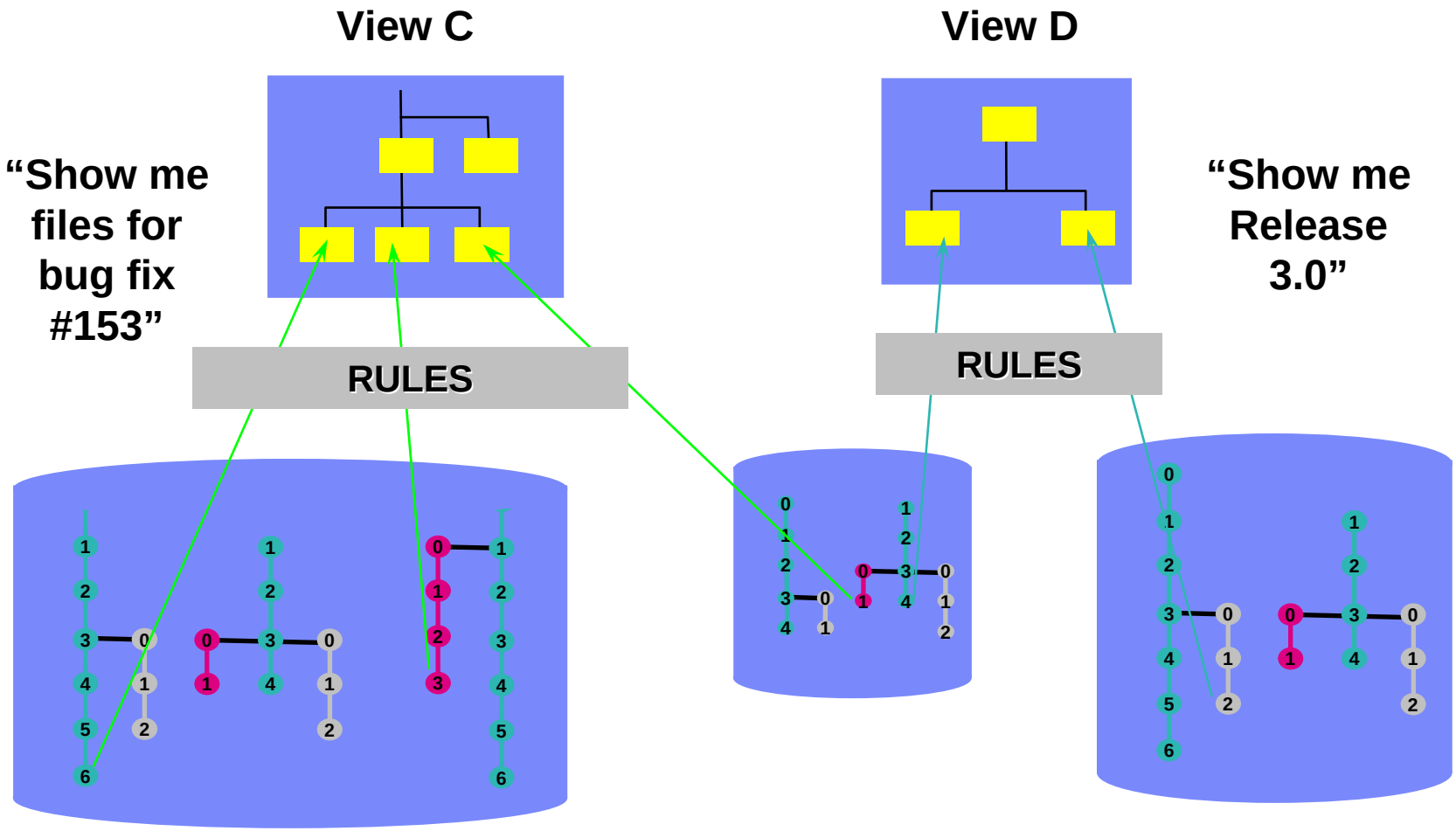


IBM Rational ClearCase: *Operates on your platforms*



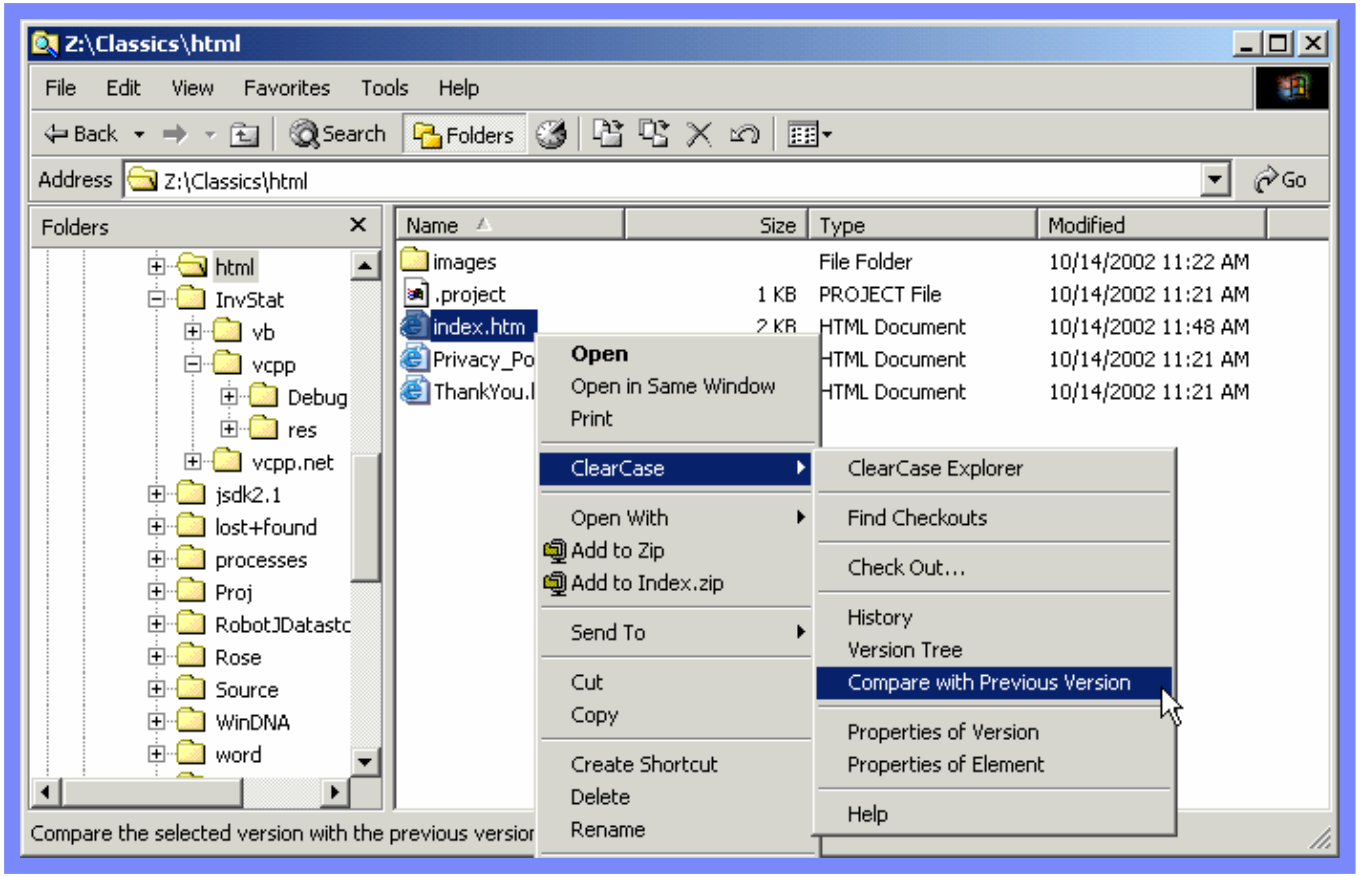
With complete interoperation!

ClearCase *views* are configurations

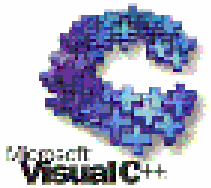


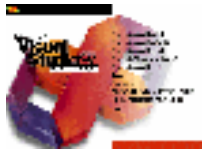
Easy to use: Windows Explorer

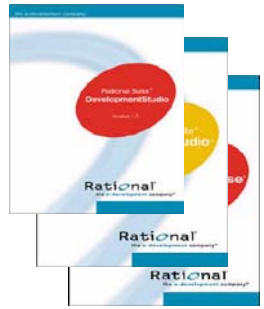
Intuitive, customizable integration with Windows Explorer

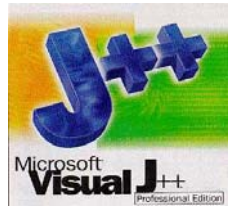


Easy to use: Many other integrations

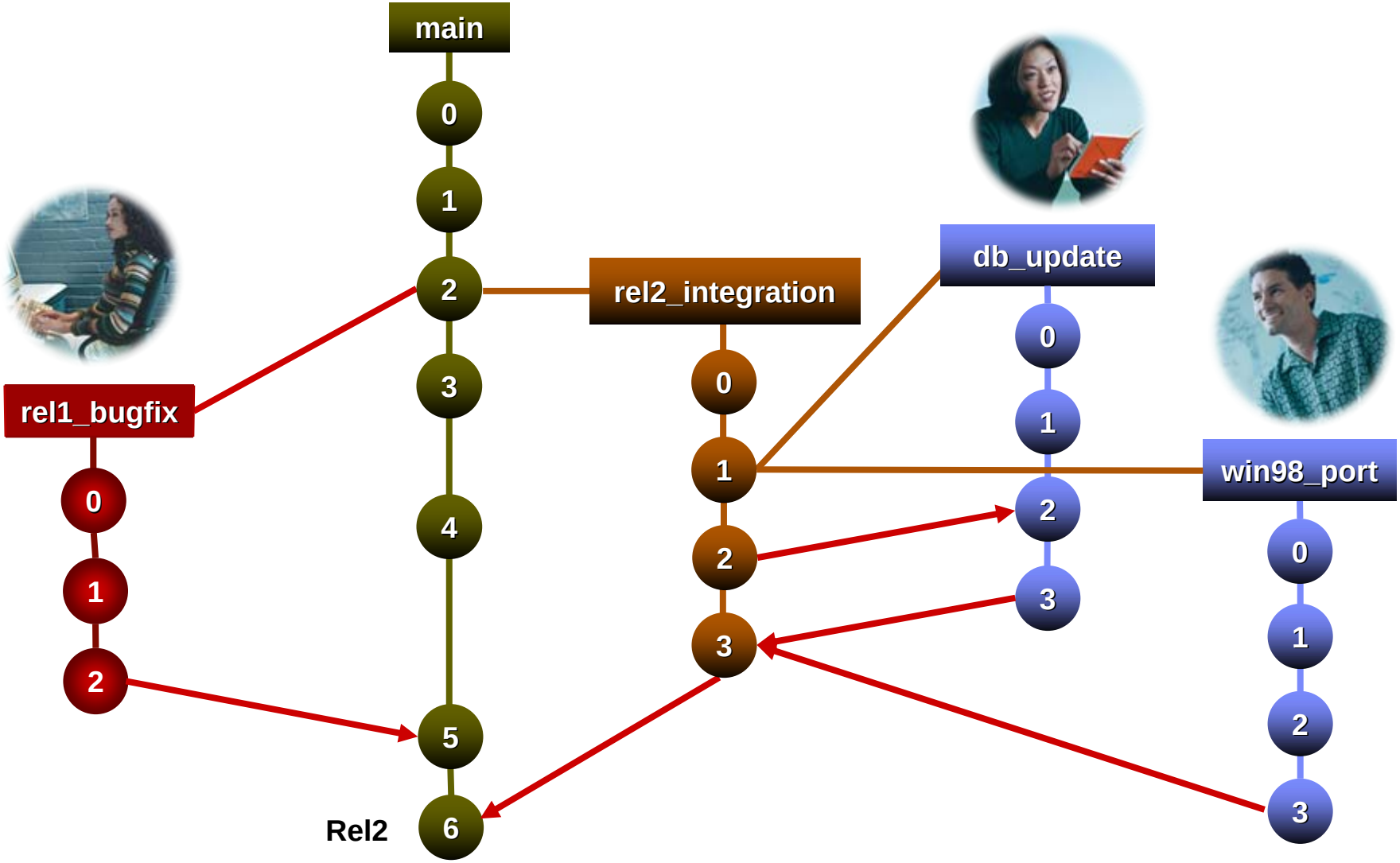




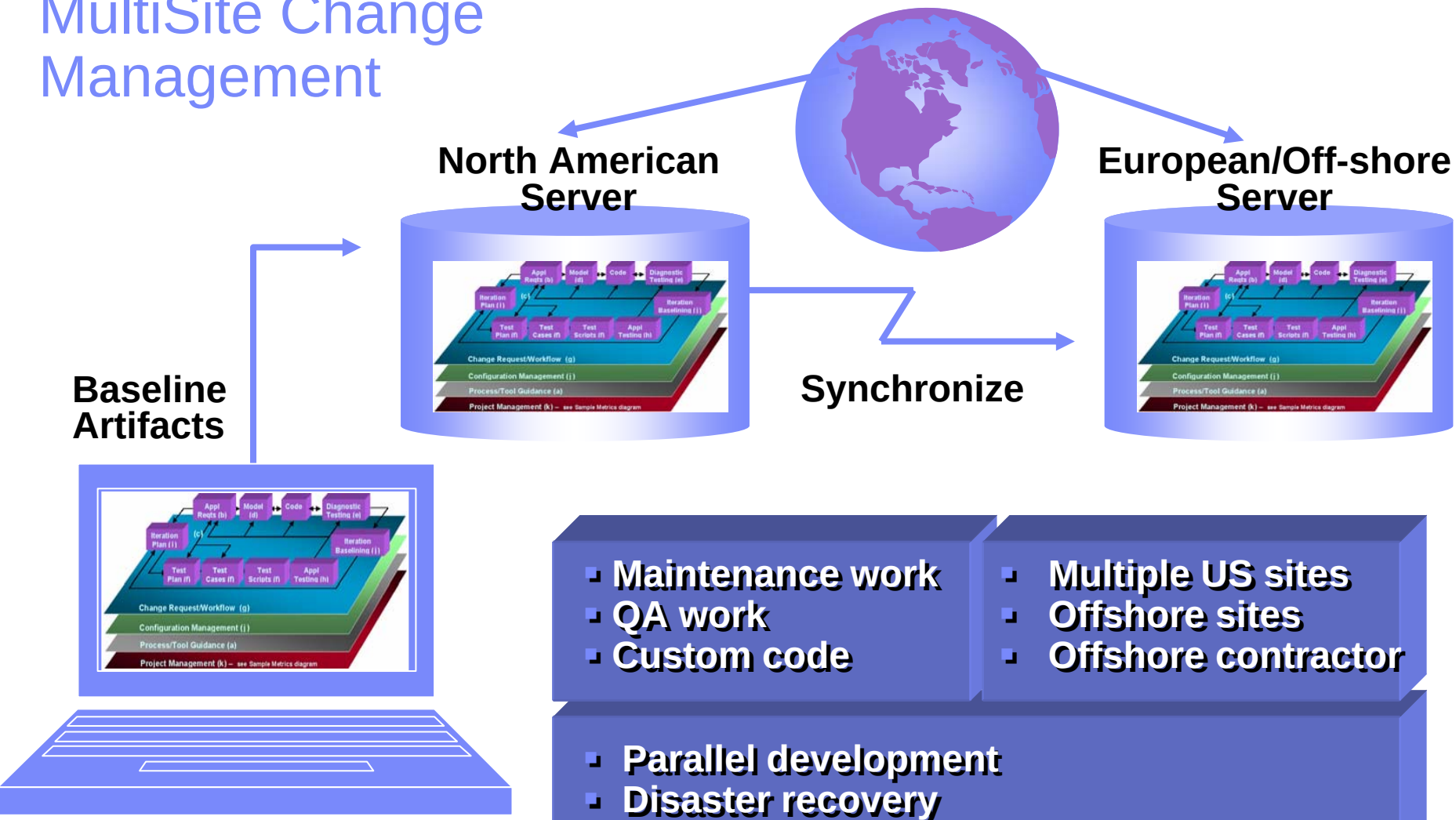




Branching without limits



MultiSite Change Management

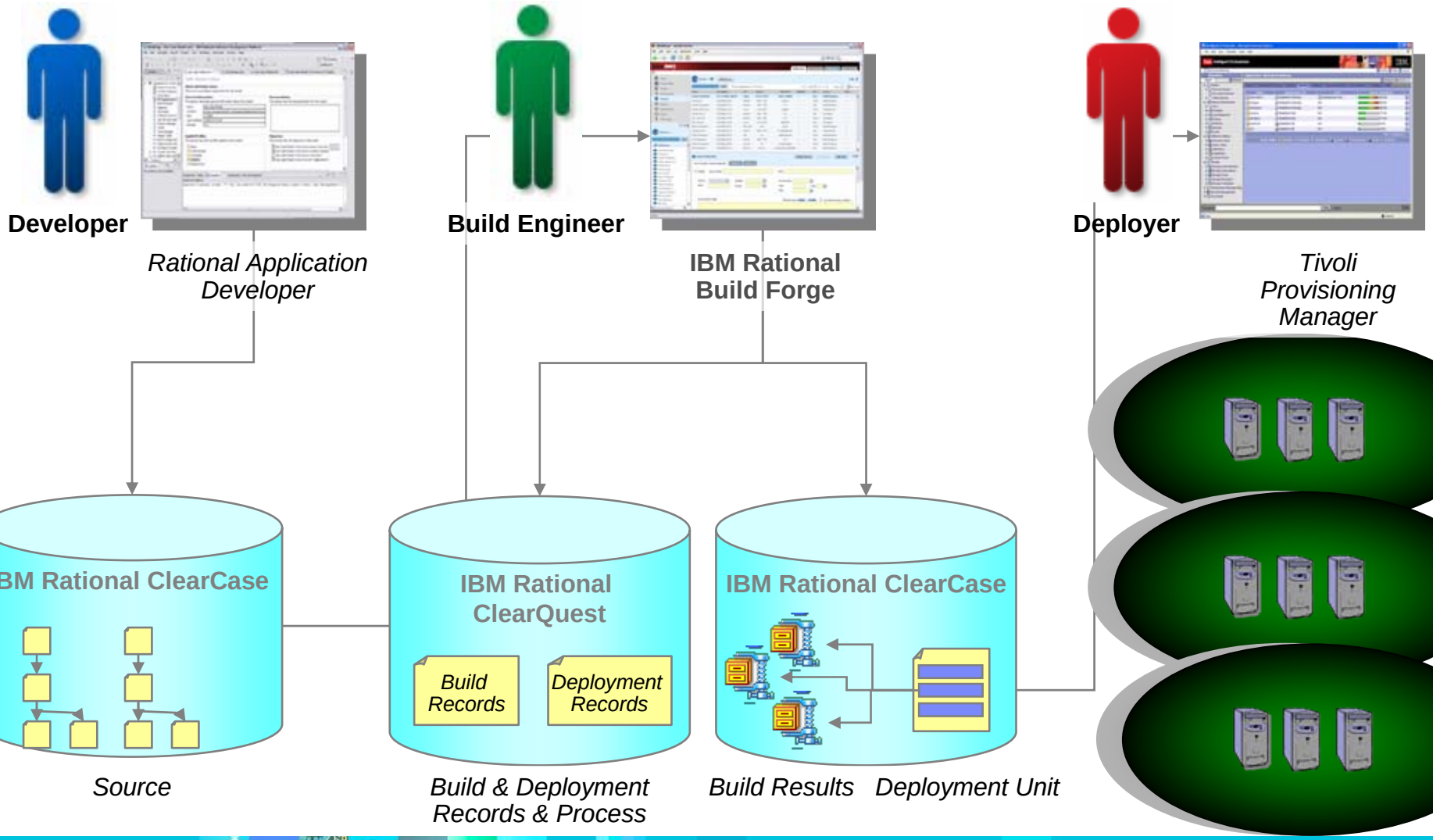


- Maintenance work
- QA work
- Custom code

- Multiple US sites
- Offshore sites
- Offshore contractor

- Parallel development
- Disaster recovery
- "Secure-Partitioning" capability

Managing and Automating the Process



Today's Build & Release Challenges

Current Conditions

- **Manual**, error-prone build processes
- Proprietary, **internally-developed** build systems
- **Inconsistent processes** for different products and platforms
- **Dependence on the build team** for execution, status, and troubleshooting
- **Separation** of developer **environments** from production systems
- Difficult and **time consuming to resolve** problems
- **Compliance**

Business Impact

- **Unpredictable** product release cycles
- **Costly** systems to support & maintain with knowledge held by few
- More work requires more people – **limited repeatability or portability** for new projects and platforms
- Burdens staff and requires **increased headcount** to take on new projects
- **Unreliable** nightly and group builds

"Software build management increasingly impacts successful software deployments, business and IT productivity and is becoming a focus for IT organizations. " **- IDC**

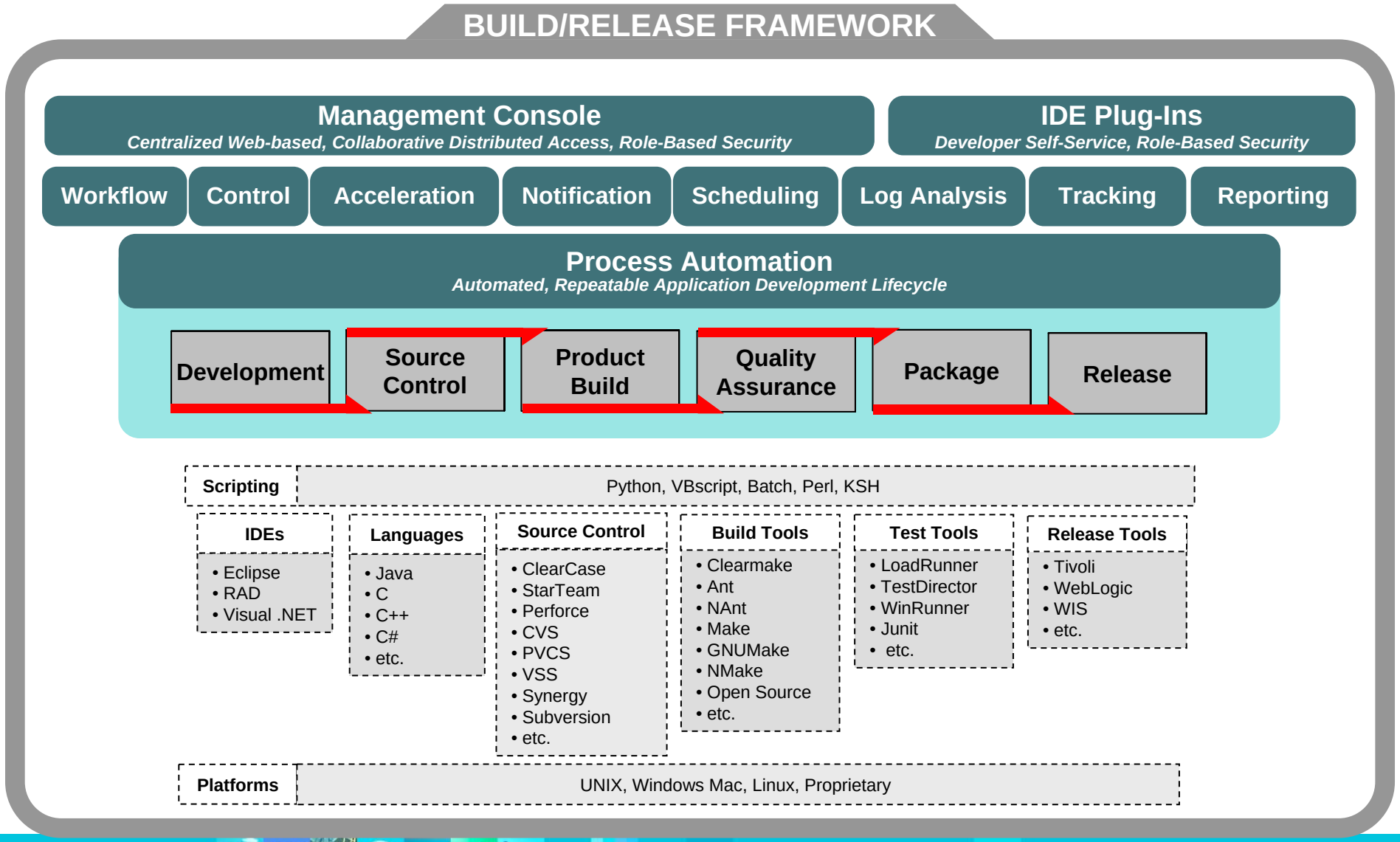
BuildForge – What's Our Value

"We were able to improve from 18 builds per week to over 360 builds per week! Across 50 other projects, that will save us $75 Million annually!" -- Adobe

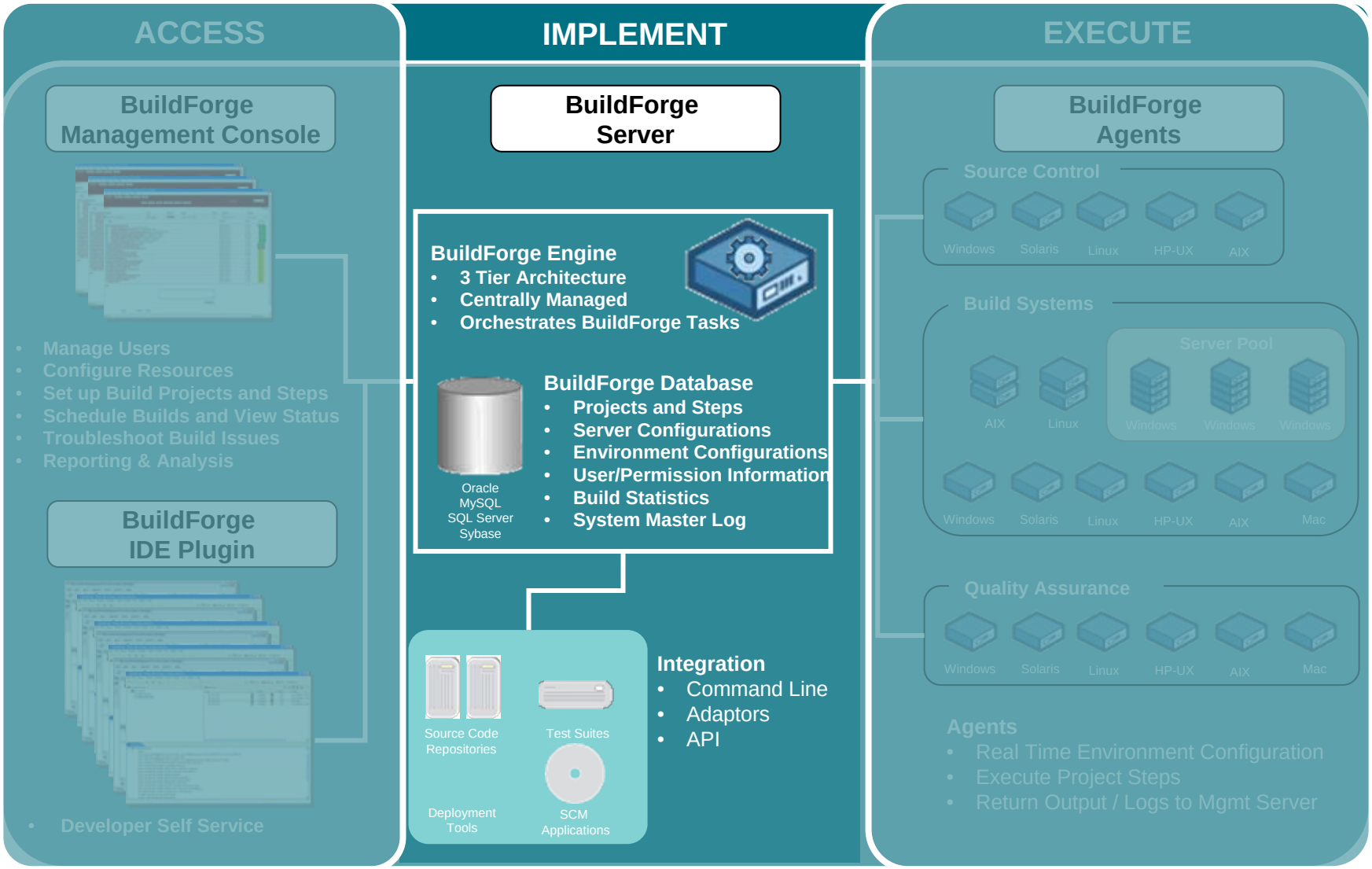
Customer results: higher productivity, improved quality, faster delivery, reduced cost

- **Reduced cost of software delivery** through standardized processes, team efficiency, and effective asset leverage, and hardware usage
- **Increased quality of products** delivered through reliable, repeatable processes and rapid error detection.
- **Decreased overall time to market** through more frequent, iterative development cycles
- **Integrated management decision support** and compliance by providing critical information about your build and release life cycle

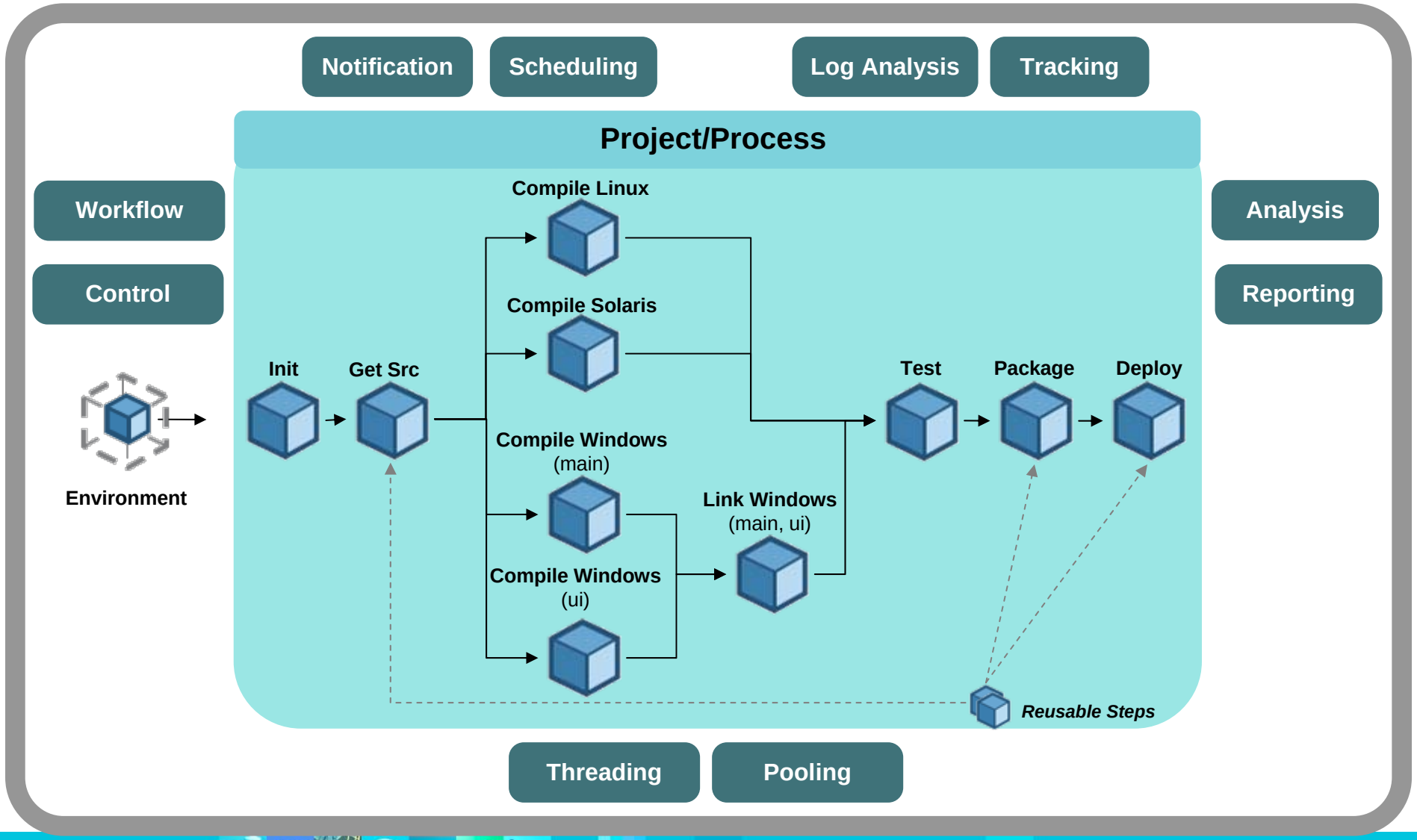
System Overview



Functional Architecture



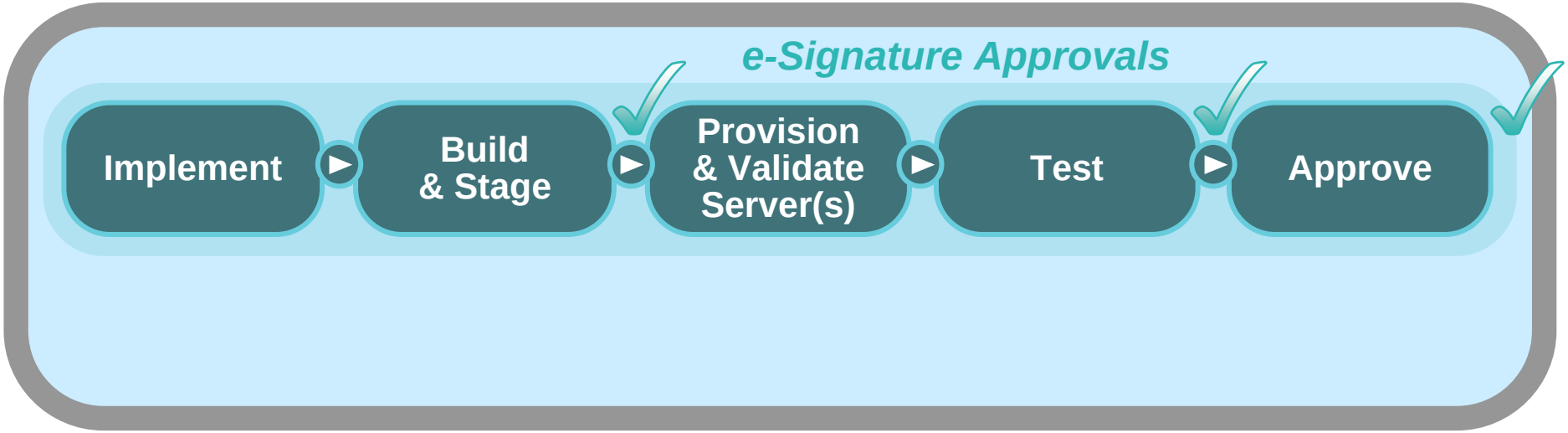
Operational Architecture…Putting it all together…



Extending the Rational Lifecycle

Automated Build and Release Management

- Java build auditing with ANT
- Build tracking
- Build automation
  - Integration with IBM Rational FullControl
- Deployment tracking
- Deployment automation
  - Integration with IBM Tivoli Provisioning Manager



IBM Rational ClearCase
IBM Rational ClearQuest

Closed-loop software delivery management

- Better governance of software and systems development
  - Extension of controls around build and deployment process
  - Total traceability from requirements to deployed assets
- Support for distributed teams
- Build for multi-platform heterogeneous environments

Accelerating the global software delivery lifecycle

IBM Rational Software Development Platform, v7.0

Flexible, integrated test management across distributed teams

New!

- Easily configure, control and enforce global test management processes
- Single-point lifecycle management of testing *and* project change
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- Announcing:
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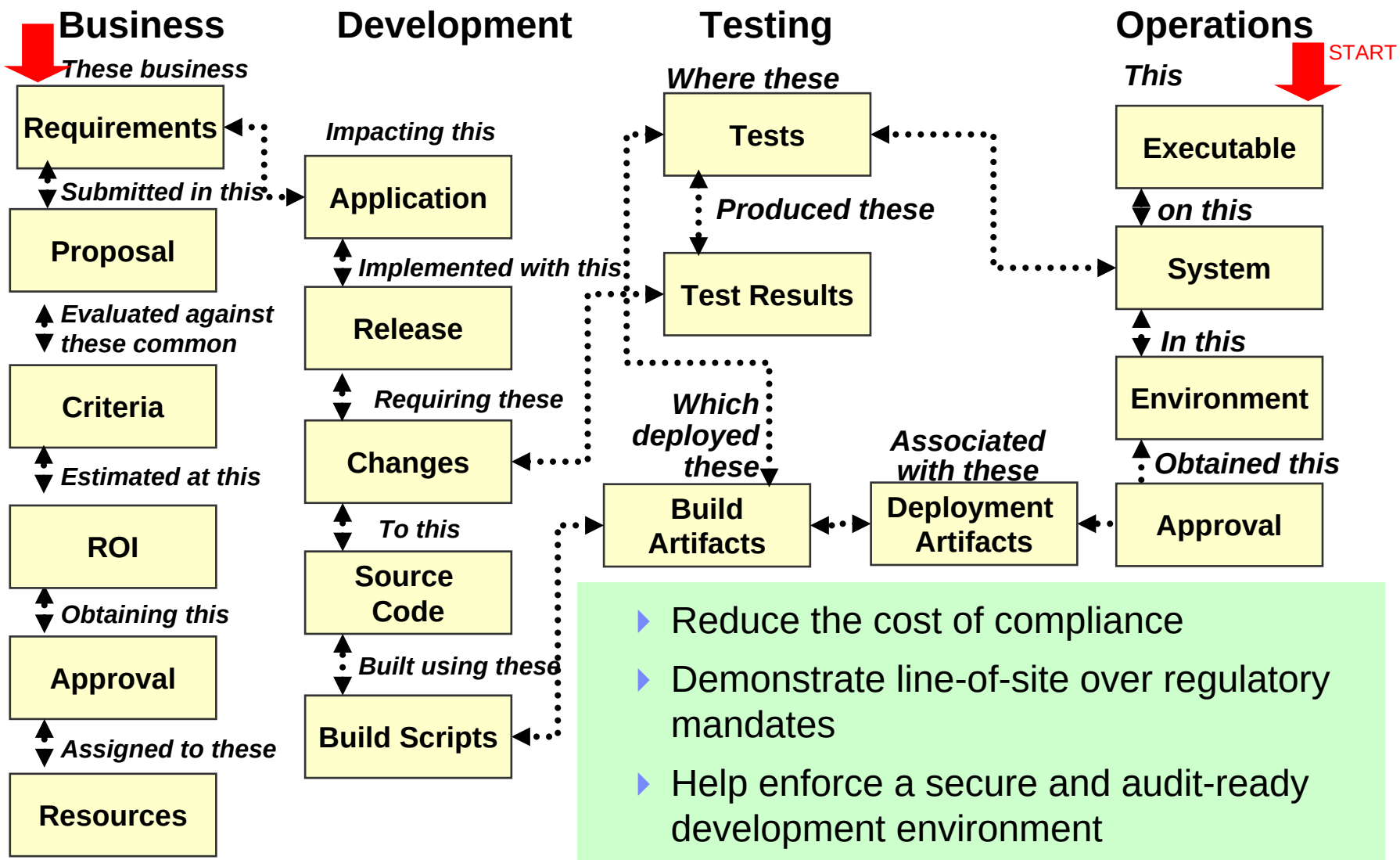
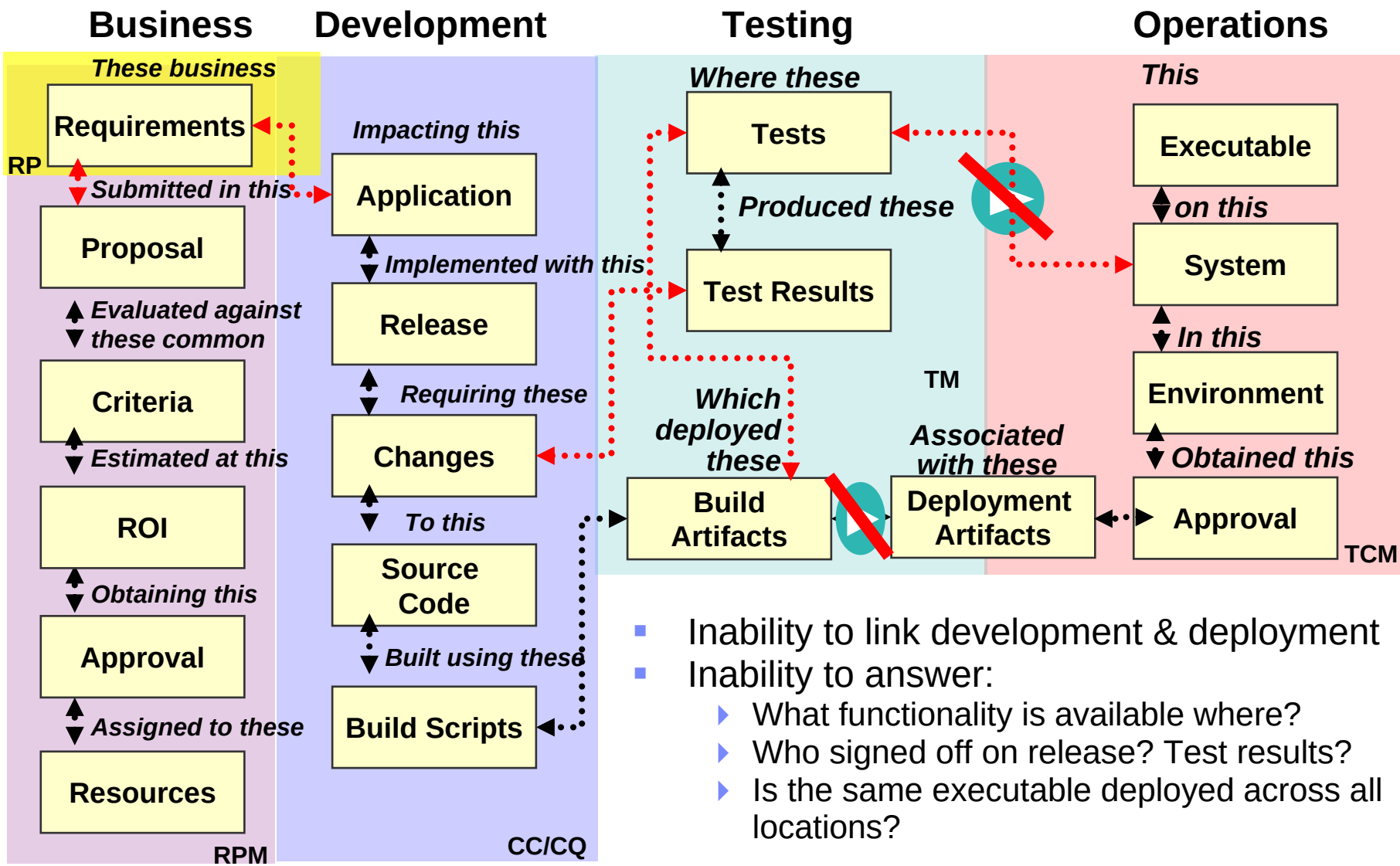
- **Result**: Comprehensive view of compliance-related artifacts with dashboard reporting

The Goal: Global, Bidirectional Lifecycle Traceability



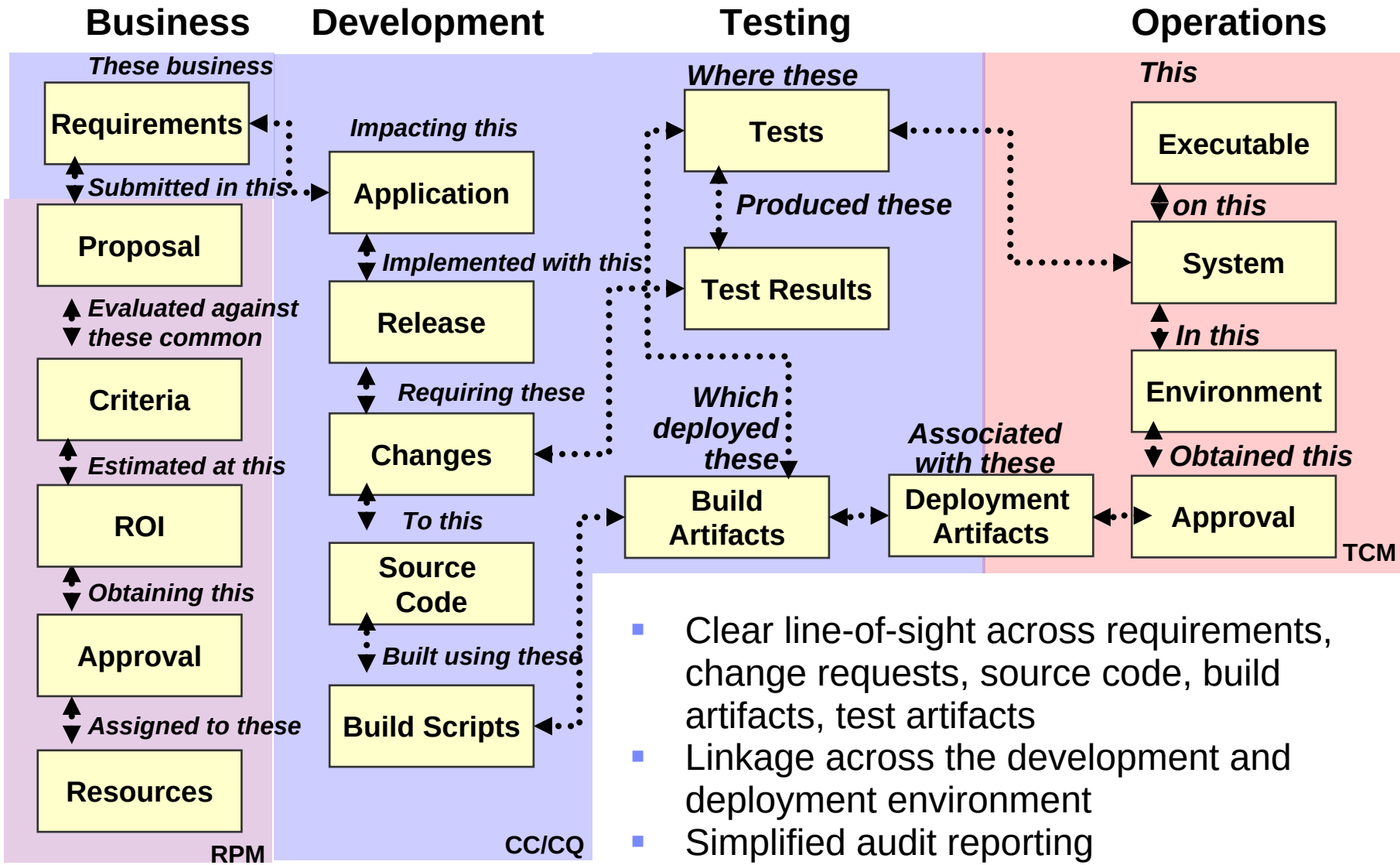
- Reduce the cost of compliance
- Demonstrate line-of-site over regulatory mandates
- Help enforce a secure and audit-ready development environment

Before: Incomplete traceability, cumbersome linkages



- Inability to link development & deployment
- Inability to answer:
  - What functionality is available where?
  - Who signed off on release? Test results?
  - Is the same executable deployed across all locations?

After: Clear line-of-sight across development and deployment



- Clear line-of-sight across requirements, change requests, source code, build artifacts, test artifacts
- Linkage across the development and deployment environment
- Simplified audit reporting

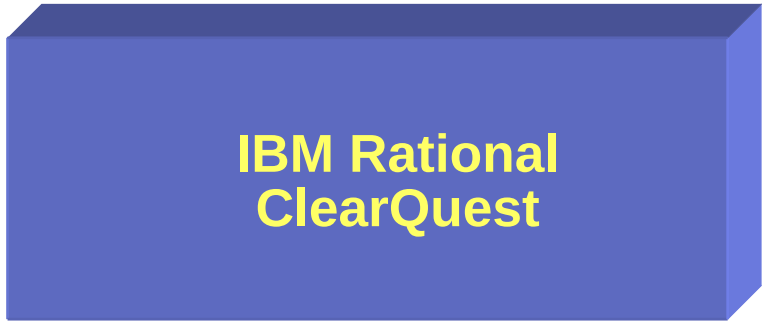
Agenda

- Adding value to your software
- Business problems and solutions that impact software and systems delivery
- Governance with IBM Rational Software Development Platform
  - Process and Portfolio Management
  - Integrated Requirements Management
  - Accelerating the global software delivery lifecycle
- Product enhancements in release 7.0

Change & Configuration Management Enhancements

IBM Rational ClearQuest

Full Lifecycle Traceability

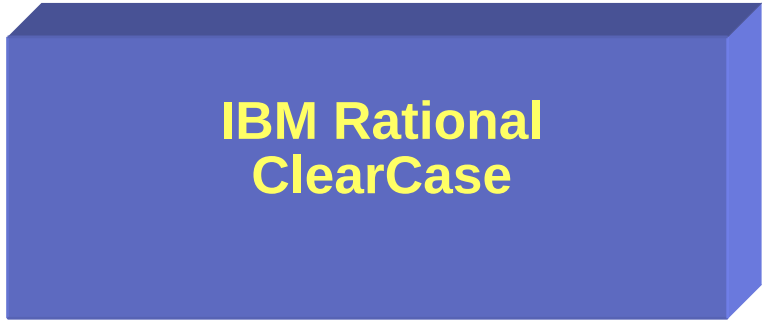


- Build & release
  - Build & deployment automation
    - Improved interface for 3rd party build tools
    - Integration with Build Forge
  - Build & deployment tracking
  - Integration with IBM Tivoli Provisioning Manager
- Enterprise Test Management
  - Distributed test management
  - IBM Rational ClearQuest - Functional & IBM Rational Manual Tester package
  - IBM Rational Performance Tester, IBM Rational Functional Tester - Extension for terminal-based applications
  - IBM Rational Performance Tester for z/OS
  - Integration with other test tools through Eclipse/TPTP framework
  - Integration with SPI Dynamics qainspect
- Globally Distributed Development
  - Improved requirements tracking
  - Consistent interface and functions across Windows, Linux, and UNIX
  - Improved globalization support
  - SSL support for LDAP authentication

Change & Configuration Management Enhancements
IBM Rational ClearCase

Build Auditing and Release Automation, Access from Virtually Anywhere

- Java build auditing with ANT
- Release automation
  - Integration with IBM Tivoli Provisioning Manager
- Extended LDAP authentication support
- Enhanced WAN access
  - Extended client platforms
  - New use cases
- Improved usability for z/OS
- Rational common licensing
- Improved UCM usability, scalability
- Large file support



Product Enhancements

Requirements and analysis

- Enhanced integration with IBM Rational ClearQuest
- RequisiteWeb Usability Improvements
- SSL support for LDAP authentication

Product Enhancements

Process and portfolio management

IBM Rational Portfolio Manager

Technical and Business Insight

- Globalization support
- Expanded platform support
- Integration with ClearQuest

IBM Rational Method Composer

Transparent Implementation of Best Practices

- New IBM Rational Methods
- New compliance process plug-in
- Improved integration with IBM Rational Portfolio Manager
- Improved integration with Eclipse Process Framework

Product Enhancements

Software Quality

IBM Rational PuriyPlus

Improved governance support

IBM Rational TestRT

Enhanced user integration

- New runtime analysis support for VS.Net 2005 applications
- Java 5 applications support
- Support for AIX 5.3 - 64-bit AIX applications, XL C/C++ complier v7.0 and v8.0, Solaris 10 & Linux x64
- Integration with eclipse 3.1, CDT 3.1
- Code review for C
- Support for Citrix and Windows terminal server

Product Enhancements

Software Quality

IBM Rational Performance Tester Extension for Citrix Presentation Server

Improve application performance

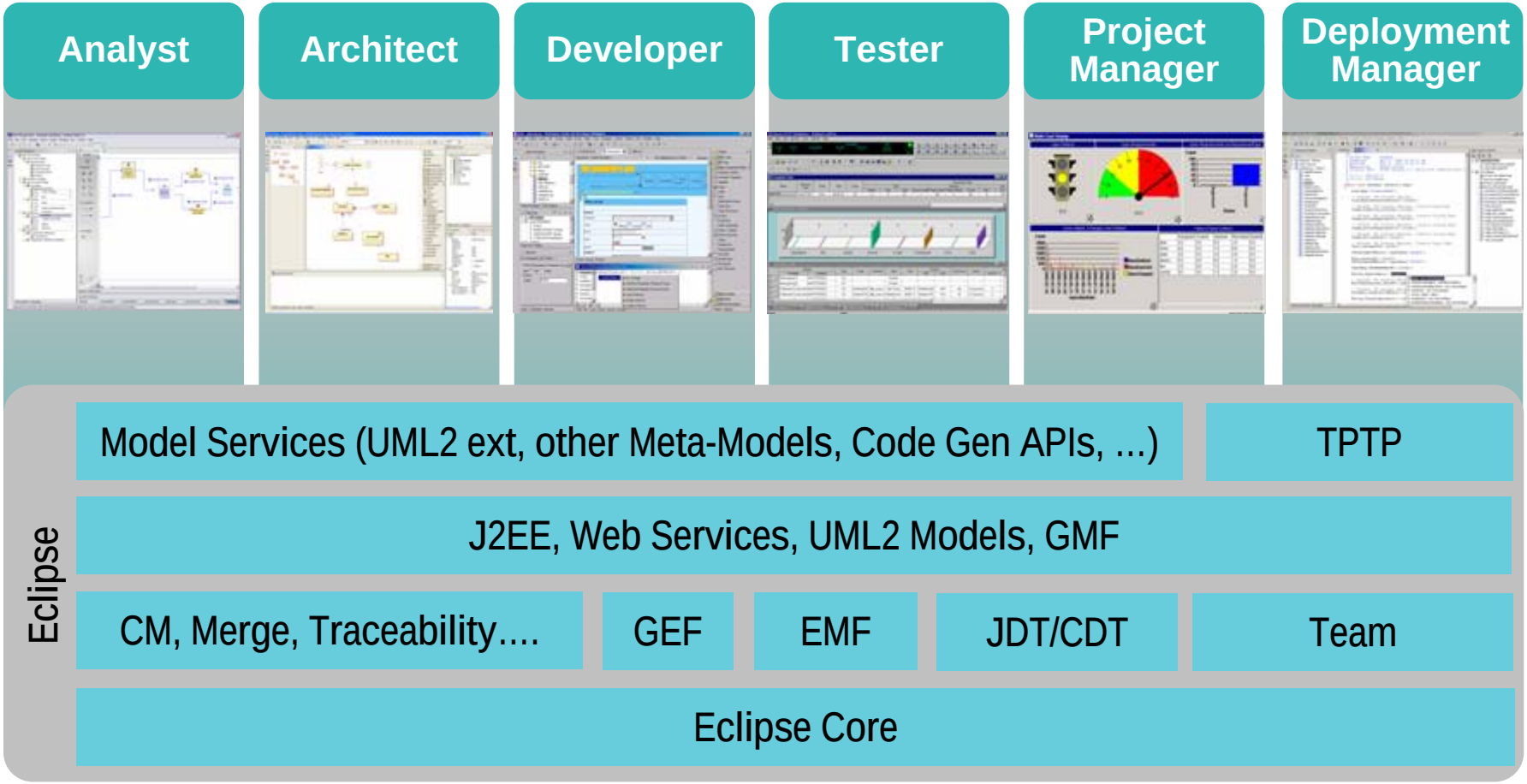
- New load and performance testing extension for Citrix
- Simple wizard-based test recorder
- Ability to annotate test recording with automatic screen captures or comments
- Test scheduling, execution and results analysis integrated in one solution
- Performance reports tailored for Citrix scalability tests

Questions

Thank
You

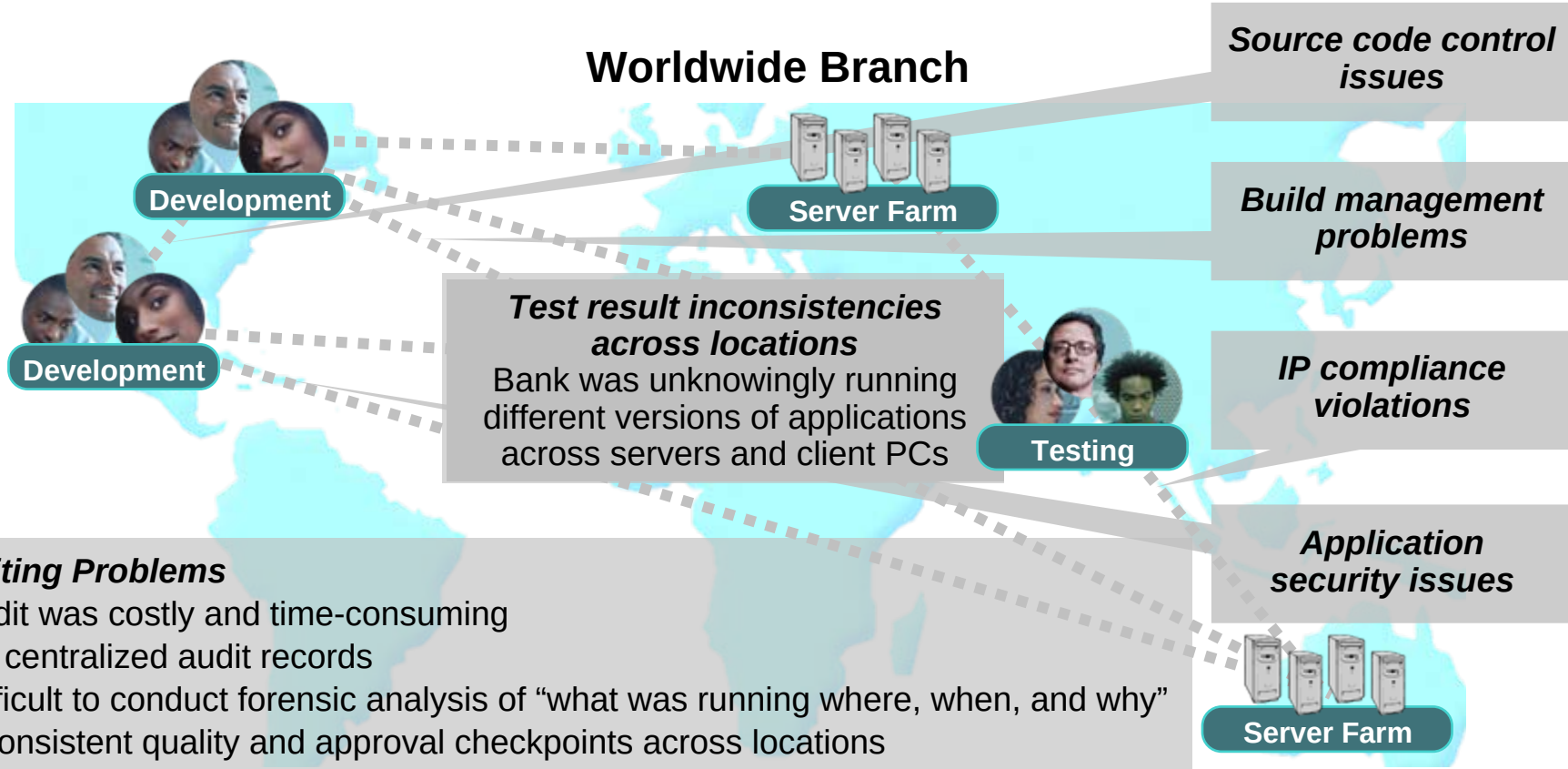
IBM Rational Software Development Platform & Eclipse

Raising the level of abstraction, transforming development



Case Study: International Consumer Bank

Problem: Customer retention and acquisition programs threatened due to IT audit failure



Auditing Problems

- Audit was costly and time-consuming
- No centralized audit records
- Difficult to conduct forensic analysis of “what was running where, when, and why”
- Inconsistent quality and approval checkpoints across locations

Case Study: International Consumer Bank

Solution: IBM Rational Software Development Platform team products and IBM Business Partner Solutions

Benefits

- Reproducible software deliveries
  - No more confusion over “what was deployed”
- Controlled, global deployment
  - Clear line-of-sight over software deliveries in distributed environments
- Improved quality assurance
  - Ensure and document all software deliveries have passed tests in target environments
- Reduced audit costs
  - Audit cycle reduced from 500 to 20 hours
  - Centralized access to standard audit reports
  - Easily accessible forensic documentation
- Business partner solutions
  - Black Duck - Enhanced control over open source elements
    - Integrated protexIP solution clearly identifies approved and “rogue” open source components
  - SpiDynamics - Improved application security
    - Integrated QAInspect solution pinpoints security vulnerabilities

IBM Rational Software Development Platform team products

- IBM Rational ClearCase
- IBM Rational ClearQuest
- IBM Rational Build Forge
- IBM Tivoli Provisioning Manager
- IBM Business Partner Solutions

blackduck

SPI DYNAMICS
Start Secure. Stay Secure.