IBM Rational
Helping customers achieve greater value from their investments in software
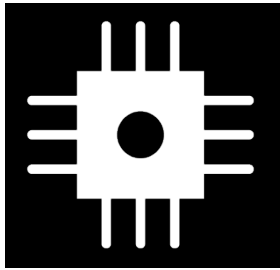
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Innovation2009
IBM RATIONAL SOFTWARE CONFERENCE

Rational. software

The reality of living in a globally integrated world is upon us

INSTRUMENTED

We now have the ability to measure, sense and see the exact condition of everything.

- Today, there are 1 billion transistors for each person on the planet.
- By 2010, 30 billion RFID tags will be embedded into our world and across entire ecosystems.
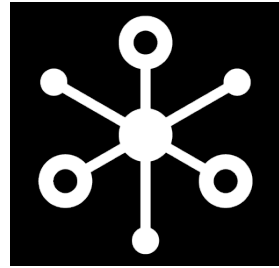
INTERCONNECTED

People, systems and objects can communicate and interact with each other in entirely new ways.

- The internet of people is 1 billion strong. Almost one third of the world's population will be on the web by 2011.
- There will be nearly 4 billion mobile phone subscribers worldwide by 2009.
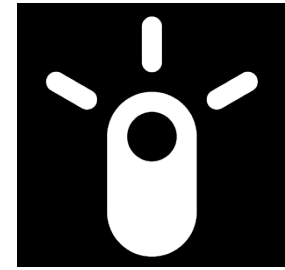
INTELLIGENT

We can respond to changes quickly and accurately, and get better results by predicting and optimizing for future events.

- Every day, 15 petabytes of new information are being generated. This is 8x more than the information in all U.S. libraries.
- An average company with 1,000 employees spends $5.3 million a year to find information stored on its servers.

Organisations that design and create software solutions face a world of growing complexity!

Let's build a smarter planet

Business realities – What you see

Software failure impacts the bottom line

- **Airbus**
  Non-compatible software used at different Airbus factories
  $6.1 billion profit hit over the next four years, 2006

- **TJX**
  Cost of data breach at TJX soars
  $256 million cost, 2007

- **Hewlett-Packard**
  Problems with ERP system
  $160 million loss, 2004

*Software related downtime costs industry almost **$300 billion** annually.*
Only 34% of software projects succeed.
The data breach at a major retailer will cost $100 per lost record.

Sources: Standish CHAOS Report, Comparative Economic Normalization Technology Study, Business Week, CEO Magazine, Computerworld, InfoWeek, Fortune, The New York Times, Time, The Wall Street Journal, Boston Globe.

What's behind the failure?

Building a competency in software is challenging
Overcoming a history of cost overruns, schedule slips and quality issues

*"Only **34%** of software projects are deemed successful costing over $300B annually"*

*"**49%** of budgets suffer overruns and **62%** fail to meet their schedules"*

*"**30%** of project costs are due to rework and poor execution of requirements"*

*"**50%** of outsourced projects are expected to underperform"*

Silos of people, process, and projects

Geographic Barriers

- Poor communication
- Language, culture, time
- Process gaps resulting in rework

Organizational Barriers

- Weak collaboration
- Poor project governance and LOB oversight
- Security of IP

Infrastructure Barriers

- Incompatible tools
- Unreliable access
- Lengthy on-boarding
- Inflexible integration

Trends toward geographically distributed teams and SOA

- **Impact of modularity**
  - ▸ More granular service functionality in composite business applications
  - ▸ Large number of projects and assets including custom, outsourced and packaged

- **Impact of change**
  - ▸ Asset SLAs will be impacted by frequent updates and changing interdependencies
  - ▸ Effective cross-organizational visibility and synchronization becomes more difficult

SOA enabled business flexibility

Business management
Business-IT alignment

IT GOVERNANCE

Operations
Service management

Development
Software delivery
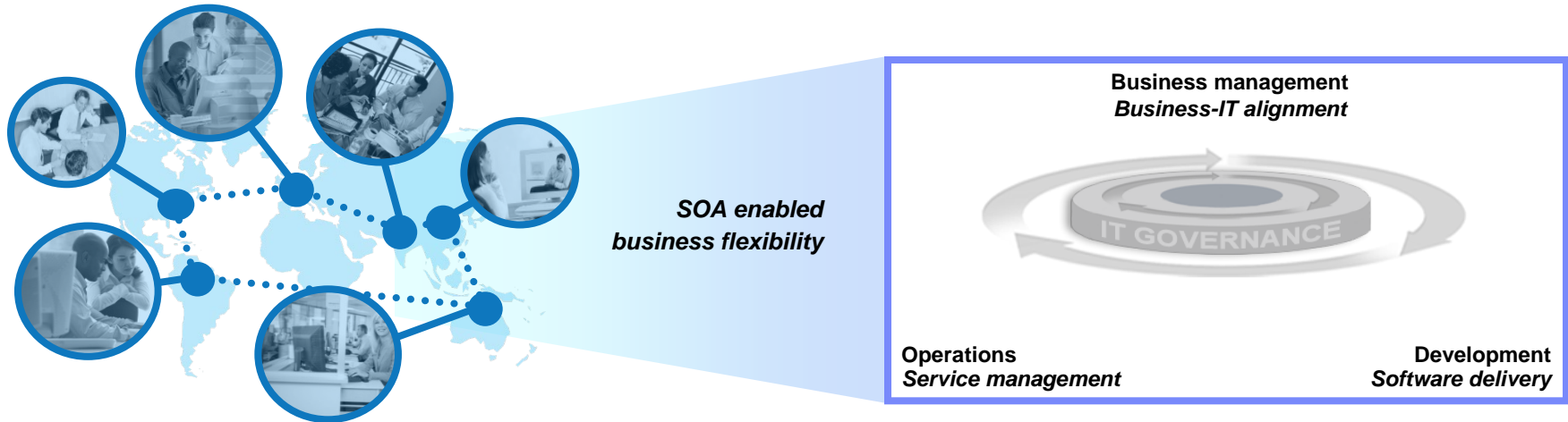
Drives the need for enabling better performance of organizationally diverse people and assets across the software supply chain

Performance of people and assets in software supply chains

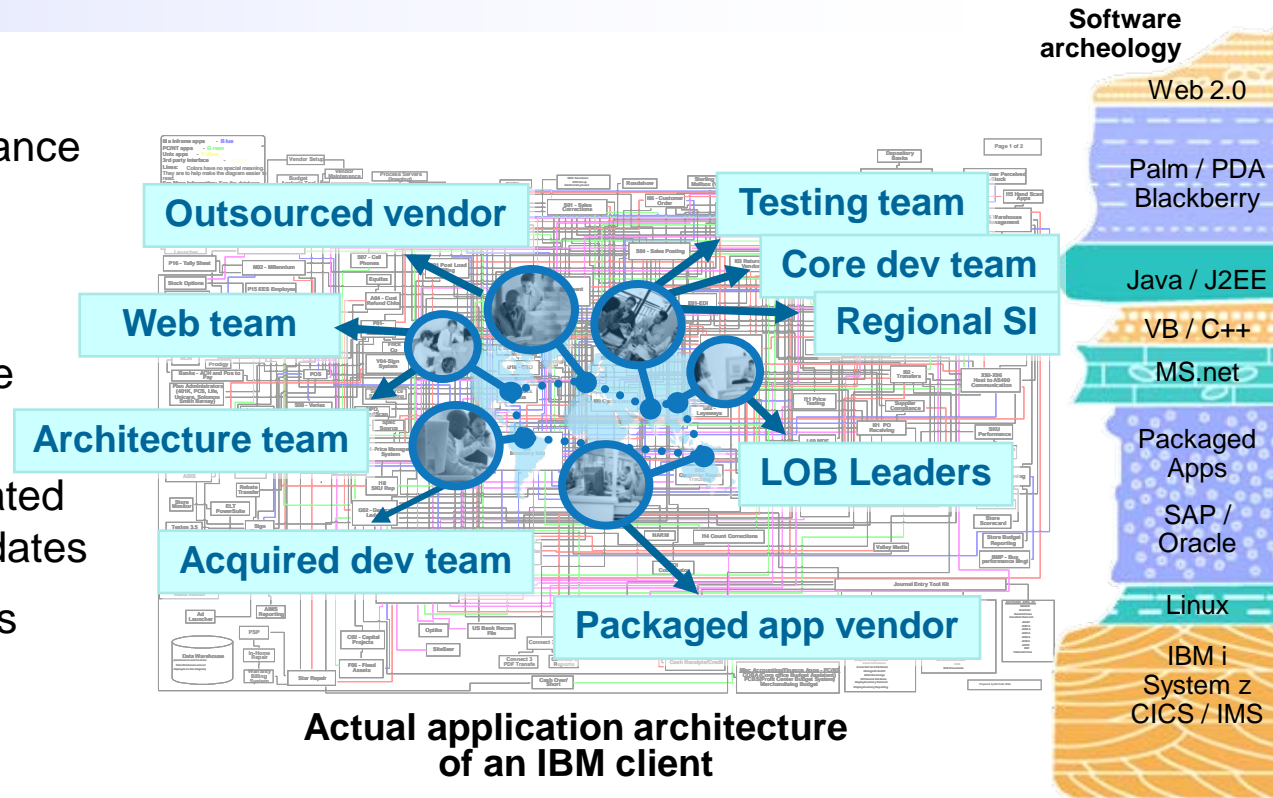*"Whether designing an airplane, assembling a motorcycle [or delivering software]… the ability to integrate the talents of dispersed individuals and organizations is becoming the defining competency for managers and firms."*

— *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 and regulatory mandates

- More formal IT and business service level agreements

Software archeology

Web 2.0

Palm / PDA
Blackberry

Java / J2EE

VB / C++

MS.net

Packaged
Apps

SAP /
Oracle

Linux

IBM i
System z
CICS / IMS

Outsourced vendor

Testing team

Core dev team

Web team

Regional SI

Architecture team

LOB Leaders

Acquired dev team

Packaged app vendor

Actual application architecture of an IBM client

An increasingly intense focus on business outcome

Align *IT* and business goals
enabling greater business flexibility

Manage value and mitigate risks
by improving project management

Control costs and **improve global**
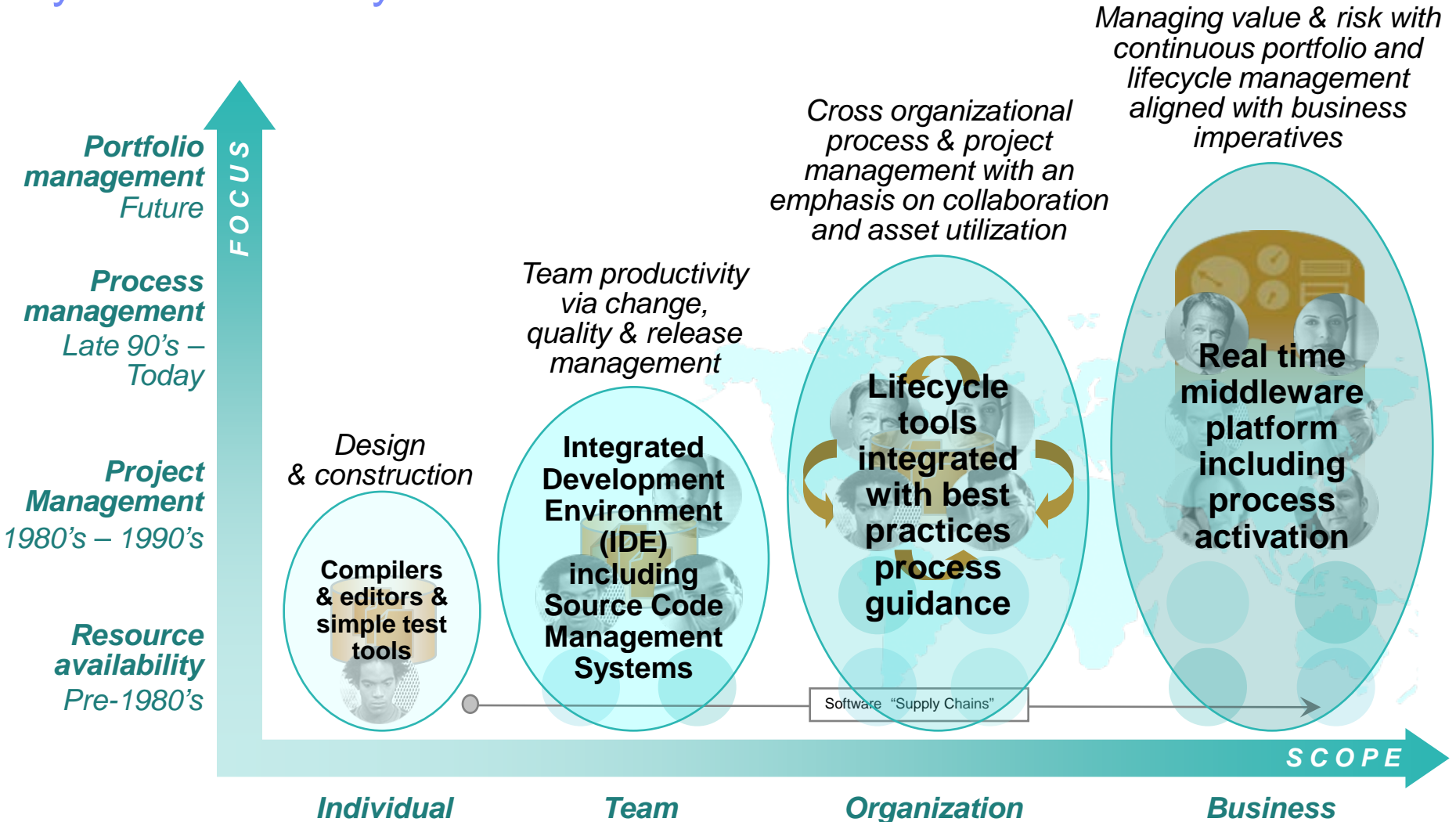operational **efficiencies** (GDD)

Ensure **security and compliance**
in a changing global environment
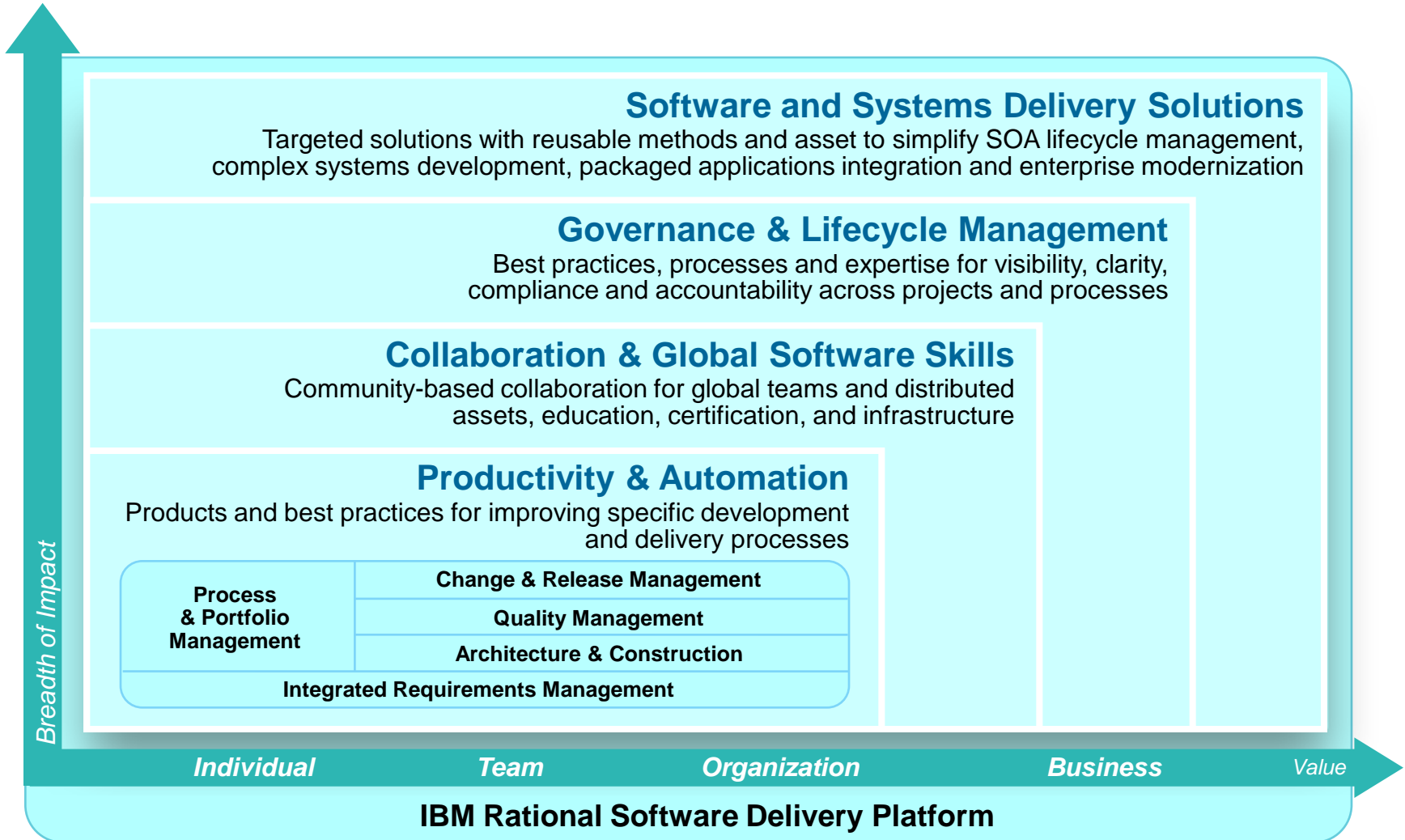
Integrate value in organizationally diverse environments

Customers are maturing their approach to software and systems delivery

Managing value & risk with continuous portfolio and lifecycle management aligned with business imperatives

Cross organizational process & project management with an emphasis on collaboration and asset utilization

FOCUS

Portfolio management
Future

Process management
Late 90's – Today

Project Management
1980's – 1990's

Resource availability
Pre-1980's

Team productivity via change, quality & release management

Design & construction

Compilers & editors & simple test tools

Integrated Development Environment (IDE) including Source Code Management Systems

Lifecycle tools integrated with best practices process guidance

Real time middleware platform including process activation

Software "Supply Chains"

SCOPE

Individual   *Team*   *Organization*   *Business*

A focus on supporting evolving value
Supporting efficiency, control and value at every level

Breadth of Impact

Software and Systems Delivery Solutions
Targeted solutions with reusable methods and asset to simplify SOA lifecycle management, complex systems development, packaged applications integration and enterprise modernization

Governance & Lifecycle Management
Best practices, processes and expertise for visibility, clarity, compliance and accountability across projects and processes

Collaboration & Global Software Skills
Community-based collaboration for global teams and distributed assets, education, certification, and infrastructure

Productivity & Automation
Products and best practices for improving specific development and delivery processes

Process & Portfolio Management	Change & Release Management
	Quality Management
	Architecture & Construction
Integrated Requirements Management	

Individual *Team* *Organization* *Business* *Value*

IBM Rational Software Delivery Platform

IBM Rational Software Delivery Platform
What we offer

Rational. software

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

In-house software ⇄ Outsource vendors ⇄ Packaged applications ⇄ Systems & products

Process & Portfolio Management

Change & Release Management

Quality Management

Architecture & Construction

Integrated Requirements Management

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

Go to **IBM**

As well as a Platform for Systems that enables the adoption of vital best practices - Leveraging our Telelogic acquisition

- **Requirements Engineering**

- **Product Portfolio Management for Systems**

- **Model-Driven Systems Development/Engineering**

- **Software Development for Systems**

- **Integrated Change Management**

Seize business opportunities

Execute with reduced risk and cost

Achieve precision in desired business outcomes

The Rational Software Platform for Systems

jazz

- **System Engineering Best Practices and Approach**

- **Product Line Engineering Lifecycle Management Framework**
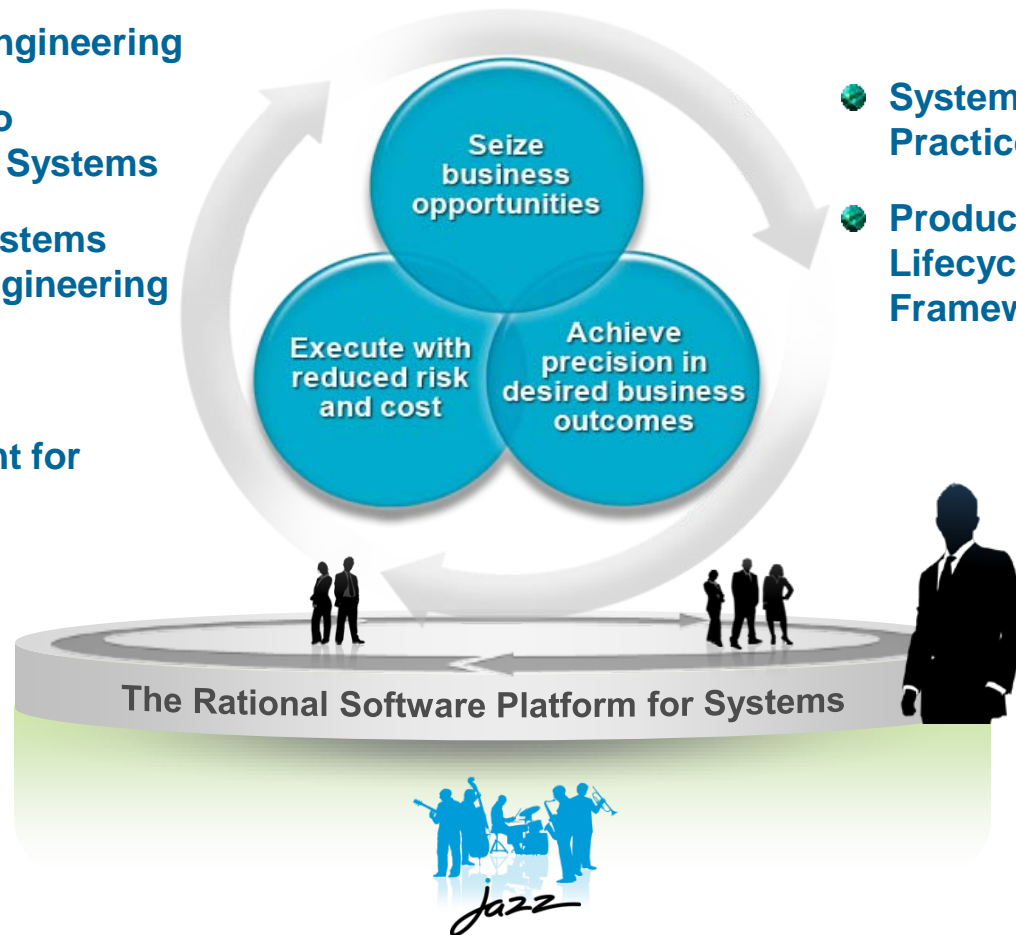
Based on a foundation that can transform software delivery

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

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

Collaborate in Context

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

Automate Governance

- Automate team workflow, improving productivity
- Automate data collection, eliminating administrative overhead
- Real-time iteration planning and workload balancing

Gain Real Insight and Adaptability

- Real-time reporting and alerts reduce project risk
- Dynamic provisioning of projects and teams
- Adapt early to project issues and course corrections

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

Collaborate   **Automate**   **Report**

Repeatable activities producing a desired business outcome

The Jazz project

People working together to deliver great software

Jazz is a project &

foundation for *transforming*

how people work together

to deliver greater value and
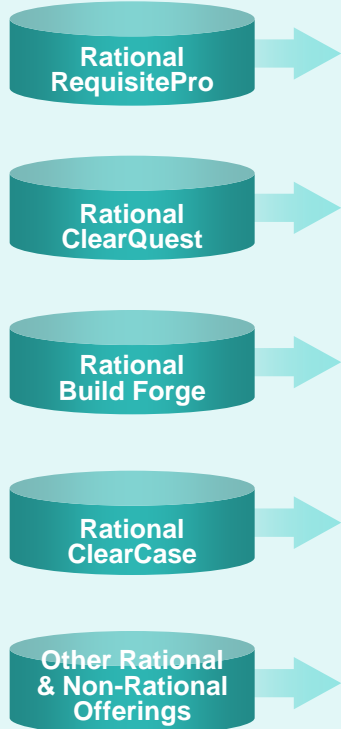
performance from their

software investments.

- A major investment by IBM to create **a scalable, extensible team collaboration platform**.

- IBM's vision of the **future of software delivery**–globally distributed, fluid and dynamic.

- An **evolution of the Rational portfolio**, which will evolve to support Jazz technology over time.

- **A community at Jazz.net** – where you can see Jazz-based products being built.

…an extensible framework that dynamically integrates and synchronizes people, processes and assets associated with software development
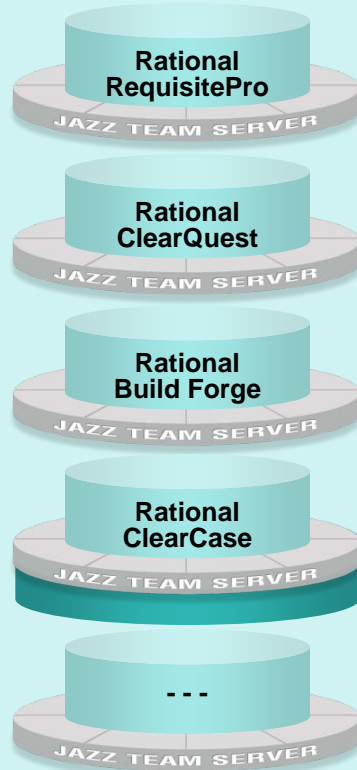
An evolution for new and existing customers

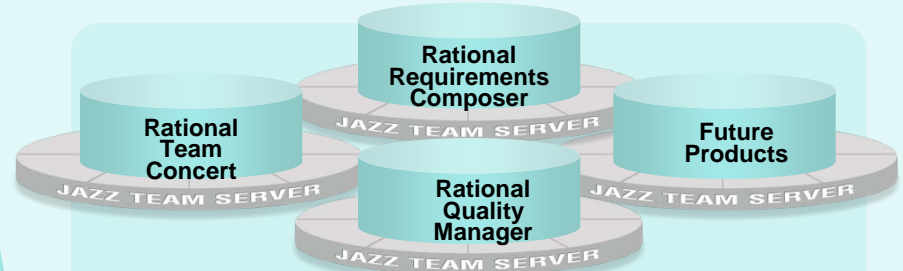## The Evolution of the IBM Rational Software Delivery Platform
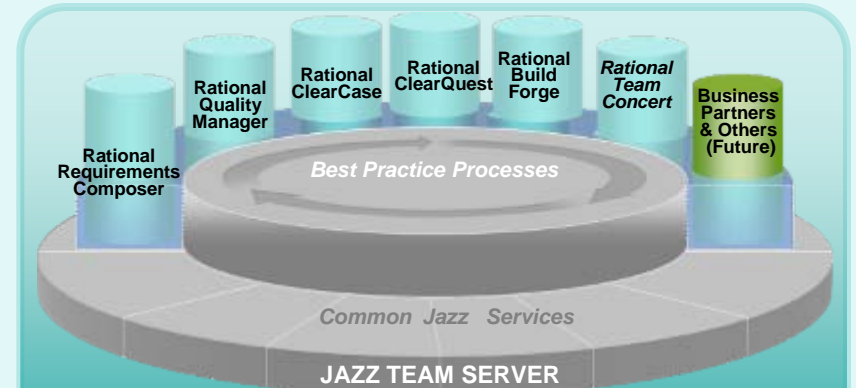
Existing Offerings

- Rational RequisitePro
- Rational ClearQuest
- Rational Build Forge
- Rational ClearCase
- Other Rational & Non-Rational Offerings

Evolution to Jazz Technology Platform

- Rational RequisitePro — JAZZ TEAM SERVER
- Rational ClearQuest — JAZZ TEAM SERVER
- Rational Build Forge — JAZZ TEAM SERVER
- Rational ClearCase — JAZZ TEAM SERVER
- - - - — JAZZ TEAM SERVER

New Offerings

- Rational Requirements Composer — JAZZ TEAM SERVER
- Rational Team Concert — JAZZ TEAM SERVER
- Rational Quality Manager — JAZZ TEAM SERVER
- Future Products — JAZZ TEAM SERVER

Built on the Jazz Technology Platform

- Rational Requirements Composer
- Rational Quality Manager
- Rational ClearCase
- Rational ClearQuest
- Rational Build Forge
- *Rational Team Concert*
- Business Partners & Others (Future)

Best Practice Processes

Common Jazz Services

JAZZ TEAM SERVER

FUTURE IBM RATIONAL SOFTWARE DELIVERY PLATFORM

Software innovation through collaboration

- **Real time, in-context team collaboration**
  - ▶ Make software development more automated, transparent and predictive
- **"Think and work in unison"**
  - ▶ Integrated source control, work item and build management
- **Assess real-time project health**
  - ▶ Capture data automatically and unobstrusively
- **Automate best practices**
  - ▶ Dynamic processes accelerate team workflow
  - ▶ Out-of-the-box or custom processes
- **Unify software teams**
  - ▶ Integrate a broad array of tools and clients
  - ▶ Extend the value of ClearQuest and ClearCase
  - ▶ Support for System z and System i servers
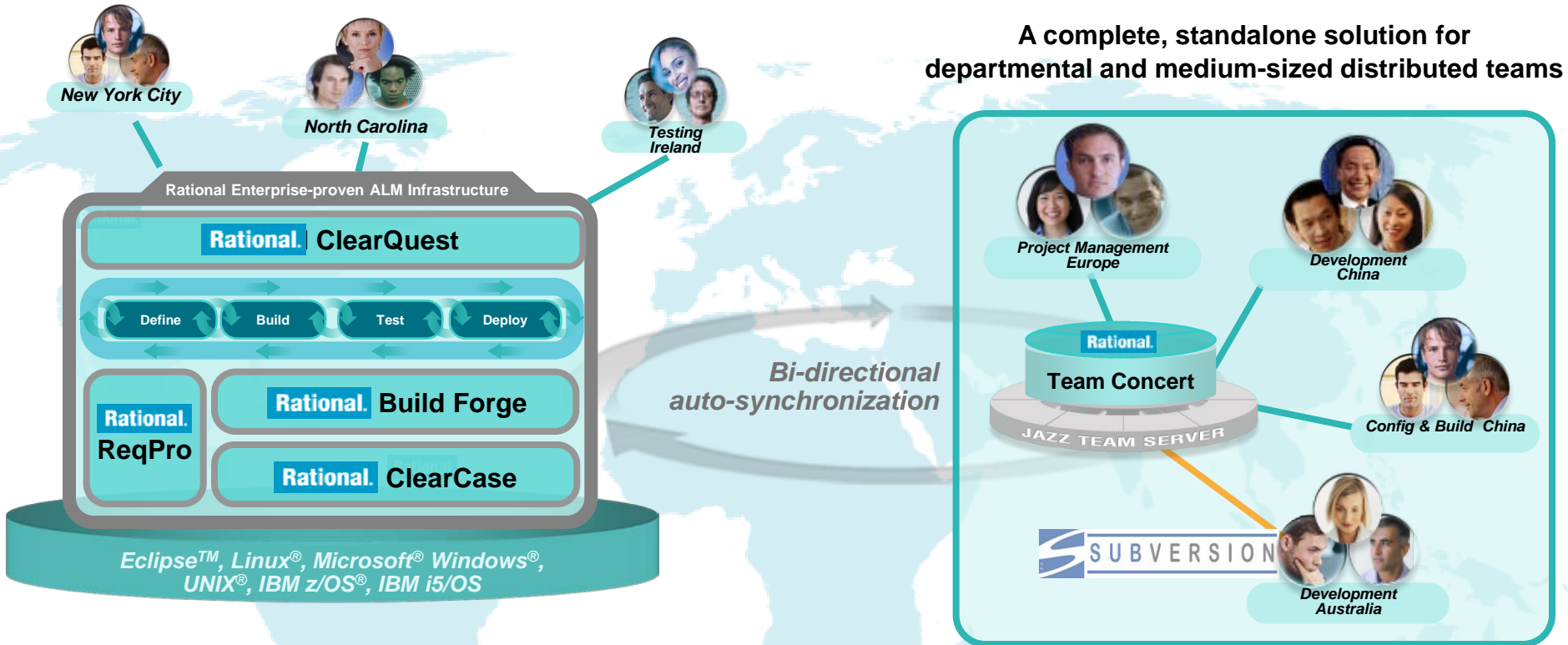

IBM Rational Team Concert

transparent *integrated presence*
wikis OPEN real-time reporting
chat automated hand-offs Web 2.0
custom dashboards automated data gathering
EXTENSIBILITY *Eclipse plug-ins* services
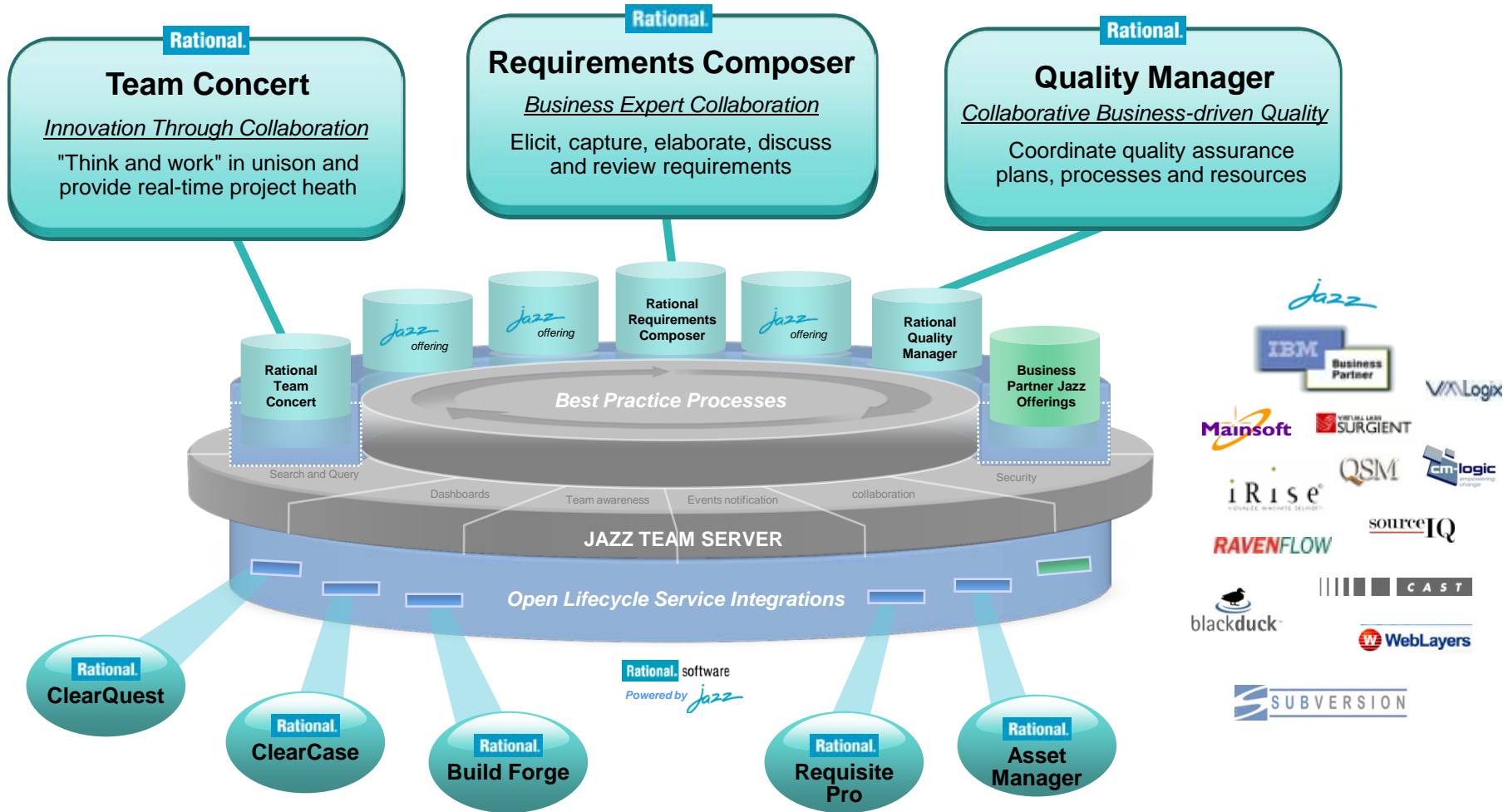architecture **FREEDOM TO CREATE**

JAZZ TEAM SERVER

Open and extensible on

Jazz

✓ Collaborate in context
✓ Right-size governance
✓ Day one productivity

Unify distributed teams in mid-sized or enterprise settings

New York City

North Carolina

Testing Ireland

Rational Enterprise-proven ALM Infrastructure

Rational. **ClearQuest**

Define → Build → Test → Deploy

Rational. **ReqPro**

Rational. **Build Forge**

Rational. **ClearCase**

Eclipse™, Linux®, Microsoft® Windows®, UNIX®, IBM z/OS®, IBM i5/OS

Bi-directional auto-synchronization

A complete, standalone solution for departmental and medium-sized distributed teams

Project Management Europe

Development China

Rational.
Team Concert

JAZZ TEAM SERVER

Config & Build China

SUBVERSION

Development Australia

- Supports departmental "satellite" or "agile" projects optionally integrated with existing enterprise-proven Rational ALM infrastructure offerings

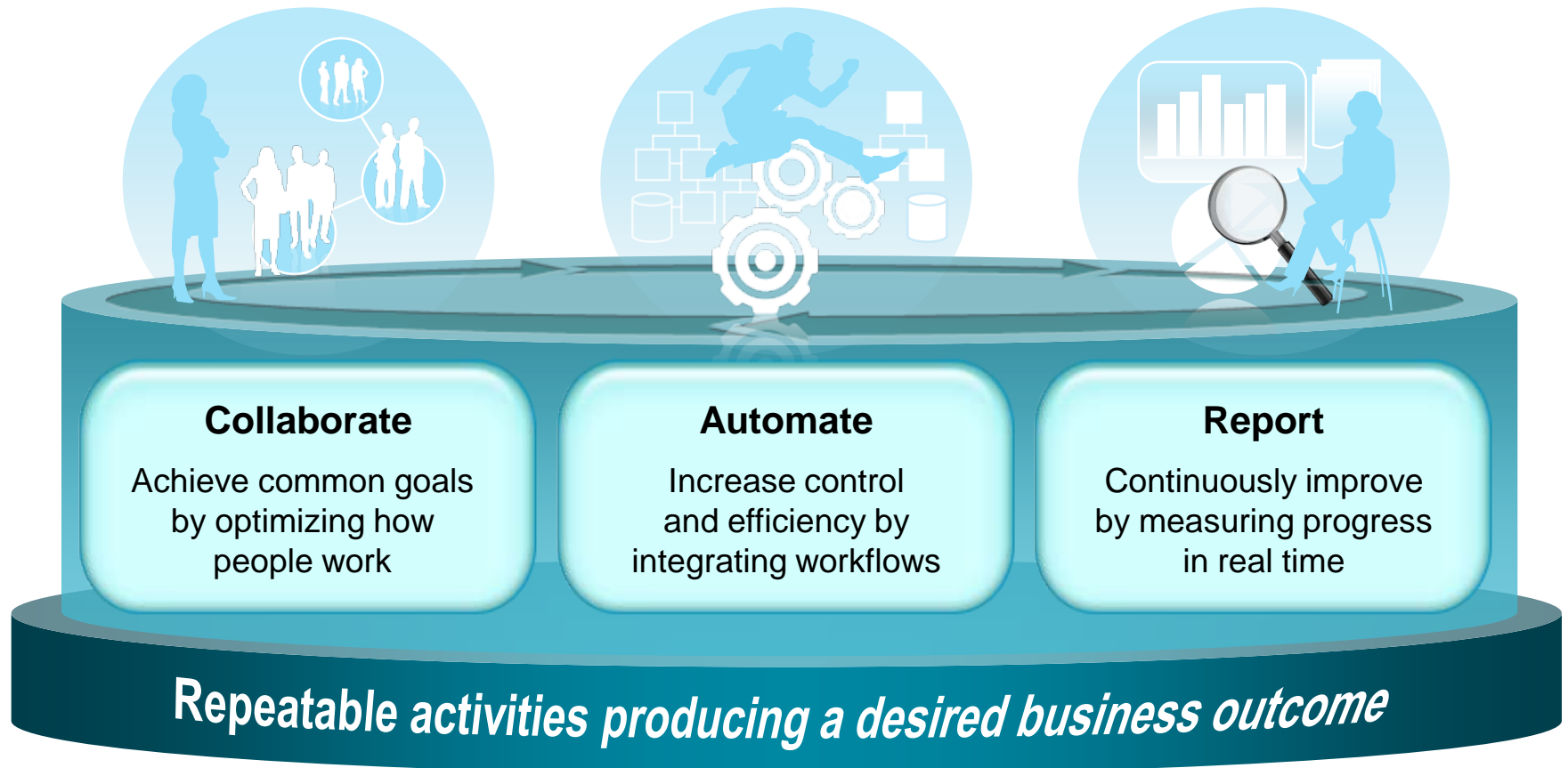- Enhances existing ALM offerings with new collaborative & process capabilities

The first wave of *Jazz* offerings

The second wave of Rational *Jazz* offerings

Enterprise Reporting
Gain insight based on real-time and historical trend information
New!

Project Management
Manage global projects and resources
New!

Method Composer
Dynamic process, enactment and management
New and Enhanced!

ClearQuest, Build Forge & Requisite Pro
Native Jazz Implementations
New and Enhanced!

ClearCase
Native for UCM users

Best Practice Processes

Search and Query   Dashboards   Team awareness   Events notification   collaboration   Security

JAZZ TEAM SERVER

Open Lifecycle Service Integrations

Rational ClearQuest

Rational Asset Manager

SUBVERSION
eclipse
Microsoft Visual Studio
Web *2.0*

Rational Build Forge

Rational Requisite Pro

Rational ClearCase

Rational software
Powered by jazz

More dynamic integration leveraging Jazz 'Open Services for ALM" services

IBM Business Partner
jazz *Offerings*
Telelogic an IBM company

Rational Integrations
New and Enhanced!
- Rational Software Architect
- Rational Application Developer
- Rational AppScan & Tester portfolio
- Rational enterprise modernization including system z and i support

Successful businesses need to manage software delivery as a robust business process

Collaborate

Achieve common goals by optimizing how people work

Automate

Increase control and efficiency by integrating workflows

Report

Continuously improve by measuring progress in real time

Repeatable *activities producing a desired business outcome*

This is also true for businesses developing complex and embedded systems software to drive Product Innovation

Automotive

Enhanced **collaboration** enables you to manage relationships between OEM and multiple suppliers

Powertrain Engine Transmission

Climate and Comfort

Networks

Steering

Lighting

Brakes and Stability

Safety

Electronics
Includes Telecom

Increased **automation** enables you to develop products at a lower cost and with fewer resources than ever before, while coping with rapidly changing market demands and technological advances

Aerospace and defense

Advanced **reporting** enables you to demonstrate compliance to requirements and regulations with complete accountability
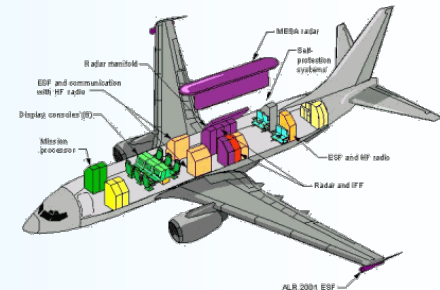
In summary

- A **unified platform** that includes a common foundation for collaboration, automation and reporting can dramatically improve the business process of software delivery

- Through **insight** into real, honest, in-flight data, teams can better measure and understand the improvements they are making using this platform

- Achieving **business differentiation** with agility and confidence is a reality today

Let's build a smarter planet
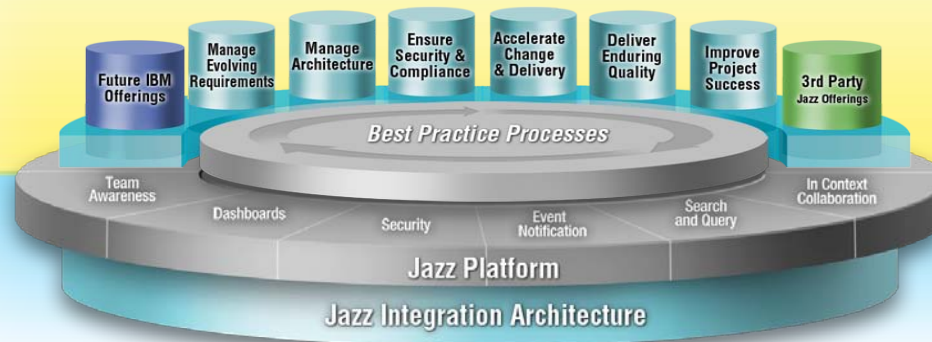
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- IBM Rational Software Delivery Platform
- Process and portfolio management
- Change and release management
- Quality management
- Architecture management

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- developerWorks Rational
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