

# Transforming and Simplifying Software Development

## *Introduction to New and Enhanced Offerings*

**Rational** software

**ON DEMAND BUSINESS**

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## Agenda

- Introduction to the IBM Software Development Platform
- New release announcements

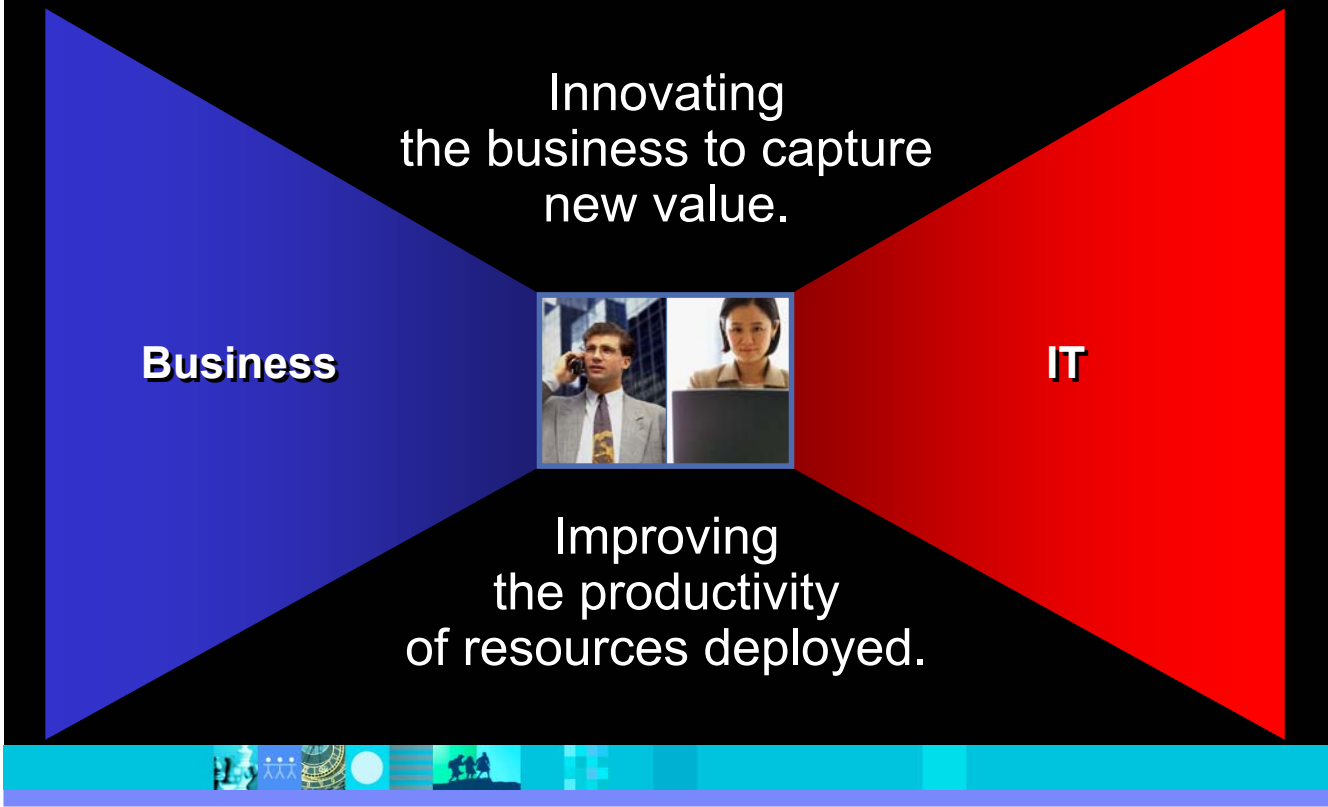
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## Software runs the world.

1. Software built with development platform.
2. Wireless app designed without a glitch.
3. Latest interface deployed under budget.
4. New product launched ahead of schedule.
5. Better software leaves competition in dust.

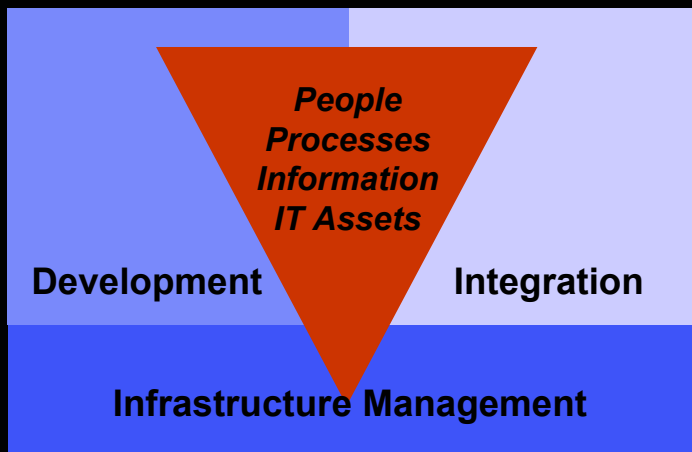




IT is the most critical lever to maximize flexibility and responsiveness while containing cost

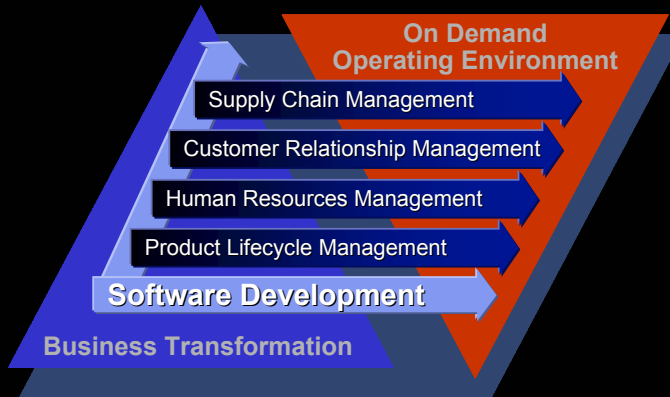
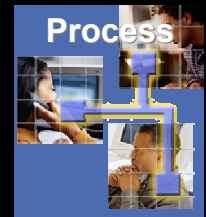
An Integrated infrastructure, **aligned to business goals and processes**, that allows a company to **resiliently and securely optimize its operations** to meet the needs of the business at any moment in time.

### On Demand Operating Environment



*All designed with an architecture that allows*

# Software development business performance Capture and apply your unique knowledge



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## Business-Driven Development

Transform traditional development into a business process that delivers competitive advantage and provides new revenue and market opportunities



**Grow revenue, not costs**

Innovation  
Automate alignment of development, operations, and LOB

**Responsiveness & flexibility**

Standardize on an open platform  
Prioritize investments

**Manage people & organizations**

Manage distributed projects  
Integrate activities



## Discover



- Find reusable assets within existing transactions, apps, & systems
- Model & design architectures, applications, services, etc.
- Store and catalog assets for reuse

## Develop



- Templates, patterns & asset-based development
- Transform assets into reusable components
- Optimize performance prior to deployment
- Manage teams & the development process
- Optimize interaction & procedures

## Deploy



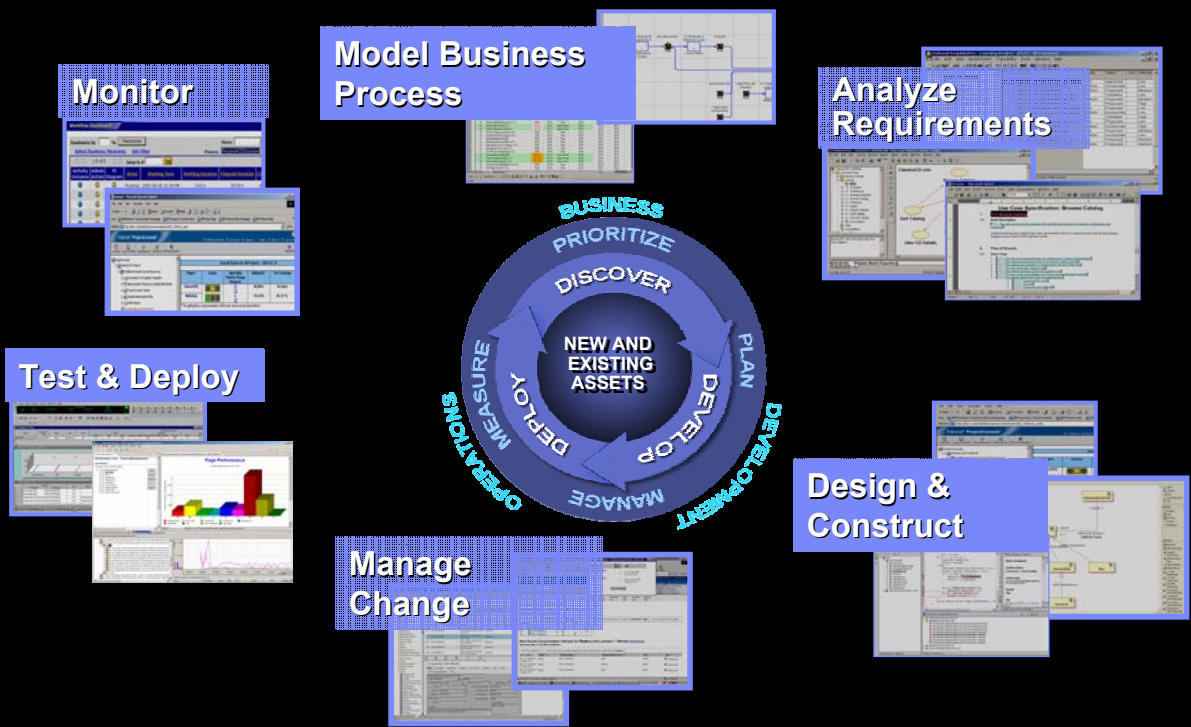
- Quality Assure: conformance testing, bug tracking, release management
- Systems Testing
- Manage runtimes over lifecycle
- Performance monitoring

**57%** of project failures are due to poorly scoped

Only **54%** of required features and functions make it to the

**82%** of projects run over time, 51% are over budget

# IBM Software Development Platform



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## Connecting business, development and operations

*Prioritize, plan, manage, measure*



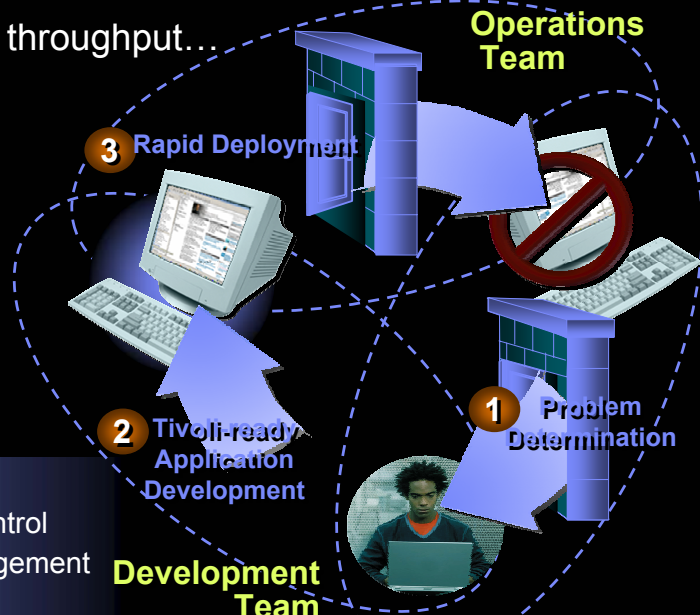
... aligns projects and resources with business priorities. It is about planning and managing projects individually and as a comprehensive portfolio of assets which must meet enterprise objectives



## Application lifecycle management

### *Closed-loop problem determination, repair, & redeployment*

- Reduce business downtime while accelerating business value throughput...
- Quickly discover and understand application-level errors even after deployment
- Speed Tivoli-aware application fix and (re)build
- Optimize and accelerate (re)deployment
- ...by bridging development and operations teams



### Capabilities

- |                            |                    |
|----------------------------|--------------------|
| Monitoring                 | ▪ Version Control  |
| Configuration Management   | ▪ Build Management |
| Provisioning/Orchestration | ▪ Modeling         |

**Development Team**

**Project Portfolio Management &  
Application Lifecycle Management**

**Business**

**NEW AND  
EXISTING  
ASSETS**

**IT**

**Component and Service-  
Oriented Architectures**



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# Repeated attempts to get it right 373 programming languages (at least!)

A+, ABAP, ABC, Ada ( Ada 83, Ada 95, Ada 9X(95) ), Aleph, Algae, ALGOL ( ALGOL 60 ), Amos, APL, ASP (Active Server Pages) ( JavaScript, VBScript ), Assembler ( 6502, Apple II (II+, IIe, IIC), IBM Assembler/370 (VM/CMS), Intel 80x86 (DOS, MASM), Intel 80x86 (DOS, TASM), Intel 80x86 (gas/NetBSD), Intel 80x86 (nasm/NetBSD(aout)), Intel 80x86 (nasm), MIDAS PDP-10 (MIT Incompatible Timesharing System), MIPS R2000, Motorola 68000 (ATARI), VAX ), awk, BASIC, BCPL, Befunge, BETA, Blue, Brain, BrainF\*ck, C, C#, C++ ( DOS/Windows, DOS/Windows (obsolete C++) ), Cilk, CLAIRE, Clipper, COBOL, Concurrent Clean, Cook, COSY INFINITY, C-Talk, Curl, Cyclone, D, dBASE, DOS Batch, Dylan, E, Eiffel ( SmallEiffel ), Emerald, Erlang, Euphoria, FiSh, FOP, Forth ( ANS Forth, ANS Forth, pForth ), Fortran ( Fortran 77, Fortran 90 ), FOX, Gofor, Haskell ( Glasgow Haskell Compiler (GHC) ), HB (Hyper Builder), Hope, HPGL, HTML, IBM EXEC ( IBM EXEC (VM/CMS), IBM EXEC2 (VM/CMS) ), Icon, J, Java, JavaScript, Jovial, K, Labview, LaTeX, Leda, LIRL, Lisp ( Common Lisp, Emacs Lisp ), Logo, Lout, Lua, Make, Mercury, merd, Miranda, Moby, Modula ( Modula-2, Modula-3 ), mpC, MUMPS, NESL, Oberon, Objective-C, Objective Caml, Obliq, Octave, Ook, Oz/Mozart, Parrot, Pascal ( ISO-7185 ), Perl, Phantom, PHP ( PHP3 ), Pico, Pike, PL/0, PL/OE, PL/1, PL/SQL, Pliant, Postscript, Profan, Prolog, Python, R, Ratfor, Rebol, REXX, Ruby, Sather, Scheme, Shell-Sprachen ( csh, es (Extensible Shell), sh, ksh, zsh, bash, sh, ksh, zsh, bash, csh, es, WSH (Windows Scripting Host), zsh ), Simula ( Simula 67 ), Sina, Sirius, Sisal, Smalltalk, SML ( SML/NJ ), SNOBOL ( SNOBOL4 ), SQL ( Oracle SQL ), Superbase, Tcl ( Tcl/Tk ), TI-83 Graphing Calculator, TOM, Turing, TXL, UFO, UML (Unified Modeling Language), VHDL, Vim, WebL, WML (Wireless Markup Language), XPL0, Yacas, YAFL, Yoix, Yorick, 4DOS, 4TH, ABCL/1, ABE, Acore, Act/1, Act/2, Act/3, Actor, Actors, Actra, AeonicScript, Agora, Alfonso, Algae, ANTLR, Argus, ART, ASP, B, BEAST, Befunge, Berkeley Smalltalk, BISON, Bistro, Blaze, Brouhaha, C mit Klassen, C+-, C-Linda, Caché ObjectScript, Caml, Cantor, Cause, Cayenne, Cecil, CH, Chakotay, Charm, Cid, Clarity, Clascal, Classic Ada, Clay, Clean, Clipper, CLOS, Clu, Cluster 86, ColdC, Common Loops, Common Objects, Common ORBIT, Concurrent Prolog, Concurrent Smalltalk, Coral66, CP, CSSA, CST, cT, Curl, Curry, Delphi, Demeter, Director, Distributed Smalltalk, Dynace, EB, EBL, Eclipse, EcmaScript, Elan, Elegant, Elf, Eli, Elisp (Emacs-Lisp), Escher, Esterel, Expect, ExperCommonLisp, Extended Smalltalk, Felix Pascal, Ficl, FIJI, Flavors, FOOPlog, FOOPS, Forte', Freemarker, FRL, Galileo, Garp, Gentle, GJ (Generic Java), GLISP, Goedel, Guile, Gypsy, HP VEE, HPGL2, Hybrid, ICI, IDL, Inferno, Inheritance, InnovAda, INTERCAL, Intermision, IPL, Jade, Jasmine, Joule, Jovial (Jules' own version of IAL (international algorithmic language)), KL-One, KL1, KRL, KRS, Lagoon, Laure, Lens, LEX, LIFE, Limbo, Linda, Little Smalltalk, LL, LOOPS, Lore, LPC (Lars Pensjö C), Lua, Lucid, Lyric, Mace, MACSYMA, MALAGA, Maple, Mathematica, Mawl, MELD, Mercury, MetaHTML, Mjolner, ModPascal, MOM, Morphe, mpC, Mutt, Napier88, Neon, New Flavors, NIL, O-CPU, OakLisp, Object Assembler, Object Cobol, Object Lisp, Object Logo, Object Oberon, Object Pascal, ObjVLisp, Occam, Omega, OmniMark, OOPC, OOPS+, OPAL, OPL, Orbit, Orca, Orient84/K, OTM, PaL, Parsec, pC++ Sage++, PCOL, PF, PIE, Pilot, Pizza, PL/LL, PLAN, Plankalkül, Plasma II, POOL-T, Pop-11, PROCOL, Prometheus, PROMOTER, Quick Pascal, Quicktalk, Rebus, RIGAL, ROIS NPL, ROSS, S3L, SAL, SAST, SCOOP, SCOOPS, Scotty, sed, Self, SGML, Simgscript, Smalltalk AT, Smalltalk V, Smallworld, SOUL (Smalltalk Open Unification Language), Spanner, SPOOL, SR, SRL, STROBE, T, T-Cham, Tempo, Tex, Theta, Tipi, Transframe, Trellis/Owl, Turing, TXL, Tycoon, µLPC, Uniform, UNITS, V, VBScript, VHDL, VIRT, Vulcan, WebMacro, WML (Website Meta Language), XLISP, XML, XSL, YACC, Yodl, Z, Zoom/VM



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## New and enhanced IBM Software Development Platform products transform and simplify software development

### New Offerings



- IBM Rational Portfolio Manager
- IBM Rational Software Architect
- IBM Rational Software Modeler
- IBM Rational Application Developer for WebSphere Software
- IBM Rational Web Developer for WebSphere Software
- IBM Rational Manual Tester
- IBM Rational Functional Tester
- IBM Rational Performance Tester
- Ready for IBM Rational software program

### Enhanced Offerings



- IBM Rational ClearCase and IBM Team Unifying Platform
- ...and More!

*! Inmatched integration automates Business-Driven*

# since the delivery of the first Rational Suite

## First Fully Integrated Development Platform

- Leveraging open source framework (Eclipse)
- Synergies among tools deliver collaborative development
- Raising individual and team productivity

Productivity

Quality

## Most Complete End-to-End Development Platform

- Simplifying Java development with JSF, EGL, SDO...
- Driving closer relationships between business and development
- Optimized for individual practitioners making development easy
- Providing executive level visibility into the development portfolio
- Enabling partner, customer and competitor ecosystem
- Translated for global support

## Adding Greater Value to Proven Solutions

- Maintaining standards concurrency
- Providing broad capabilities for individual practitioners
- Supporting multiple environments (Java, .NET, Linux)
- Optimized for IBM Middleware (WebSphere, DB2, Workplace...)

Predictability



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IBM

## IBM to acquire Systemcorp

- IBM has entered into an agreement to acquire Systemcorp.
- The acquisition will be effected via a plan of arrangement under applicable corporate legislation, and is subject to court approval. The acquisition is expected to be completed within 30 days of October 12th.
- Subject to the successful completion, Systemcorp's operations will be integrated into IBM's Rational software development business, under the direction of Mike Devlin, General Manager, and its products will be available from IBM within 30 days of completion of the acquisition.
- Systemcorp adds project portfolio management and IT governance capabilities to the IBM software development platform.
- The acquisition will address a growing customer need for improved synergies between business and IT.
- Systemcorp solutions complement IBM solutions from Rational, Tivoli,

# Why acquire Systemcorp?

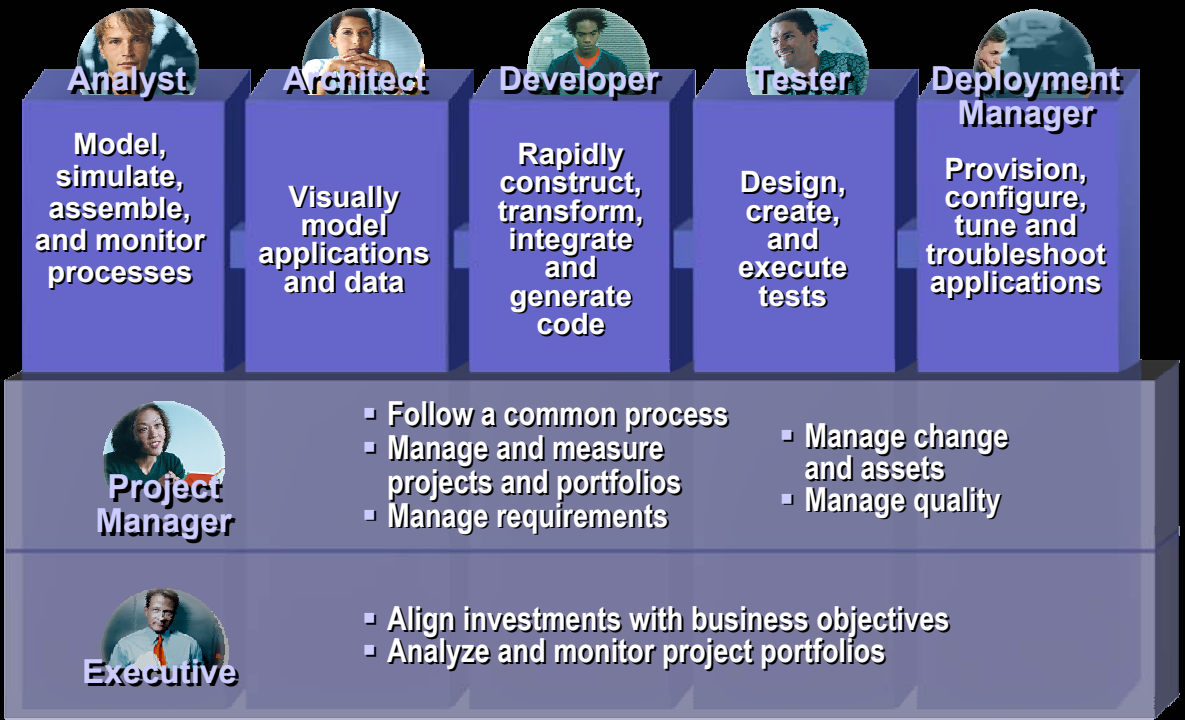
- Customers still report an expectations gap between IT and executives or line-of-business stakeholders
  - ▶ Executives require visibility into IT activities
  - ▶ IT and development leaders must demonstrate alignment of projects with enterprise priorities
  - ▶ A project portfolio management tool enables these stakeholders to maximize return from IT
- IBM is uniquely positioned to deliver a portfolio management solution with:
  - ▶ tools to support the management of IT and software development,
  - ▶ reusable processes to help teams manage the project work,
  - ▶ and the proven expertise in facilitating the organizational transformation.



## Benefits to Systemcorp customers/IBM customers

- Win for IBM and Joint IBM/Systemcorp customers:
  - ▶ Provides customers with an industry-leading Project Portfolio Management (PPM) solution that supports the IBM platform
  - ▶ Only IBM delivers both the top-down visibility of PPM with the bottom-up development and application monitoring capabilities of a complete ALM solution
- Win for Systemcorp customers:
  - ▶ Provides a more complete solution for business driven development, based on leading tools
  - ▶ Supported by IBM's worldwide services organizations, skilled

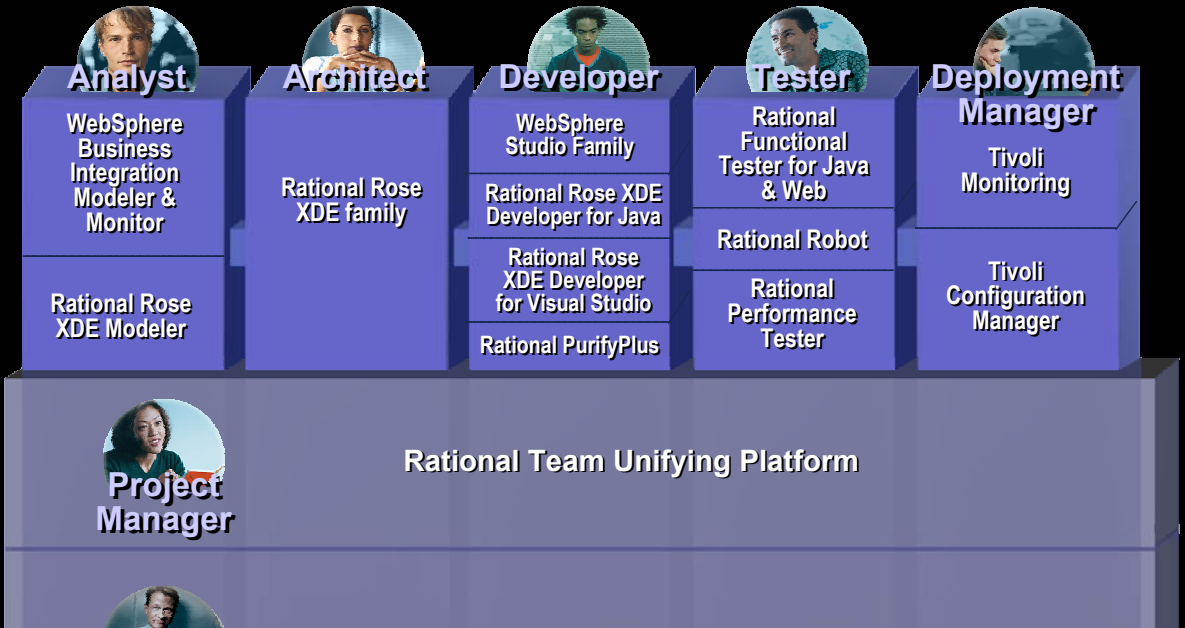
# All tools and team members support all development imperatives



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## The IBM Software Development Platform *Prior to this announcement*



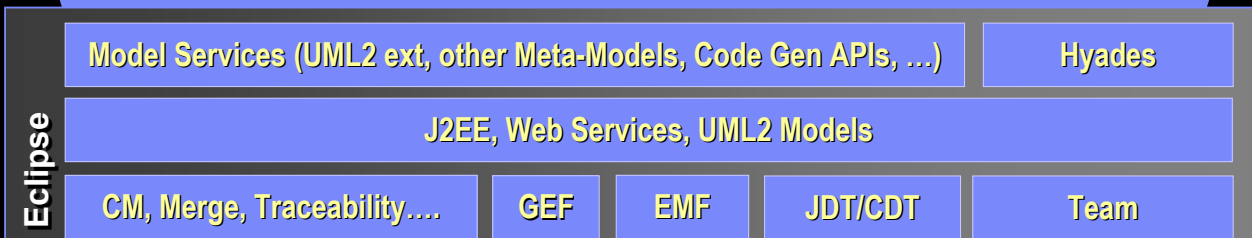
# What's new & enhanced: Simplified solutions

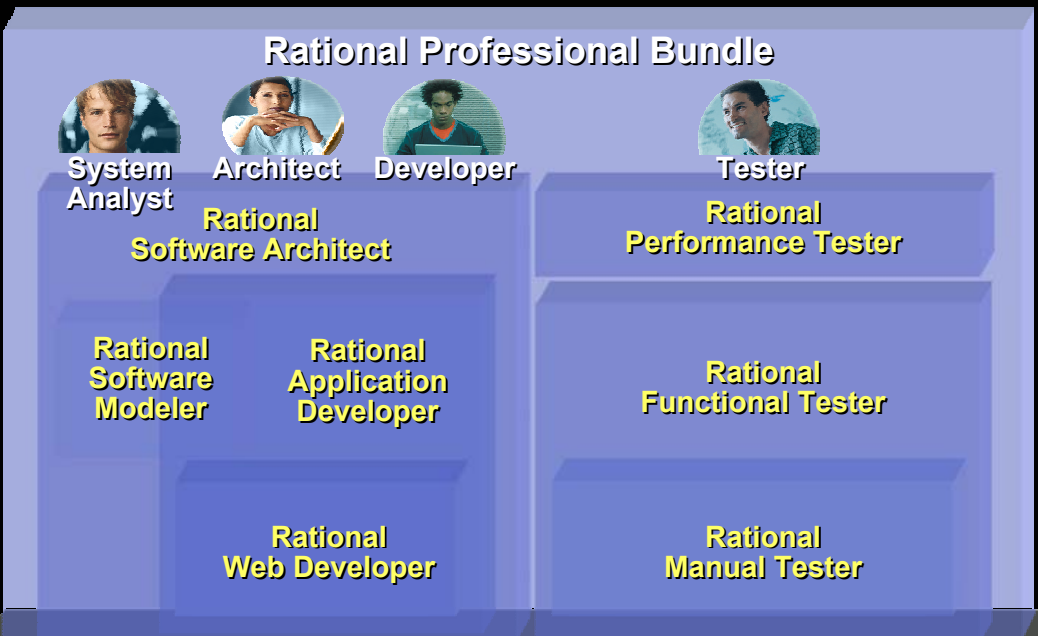
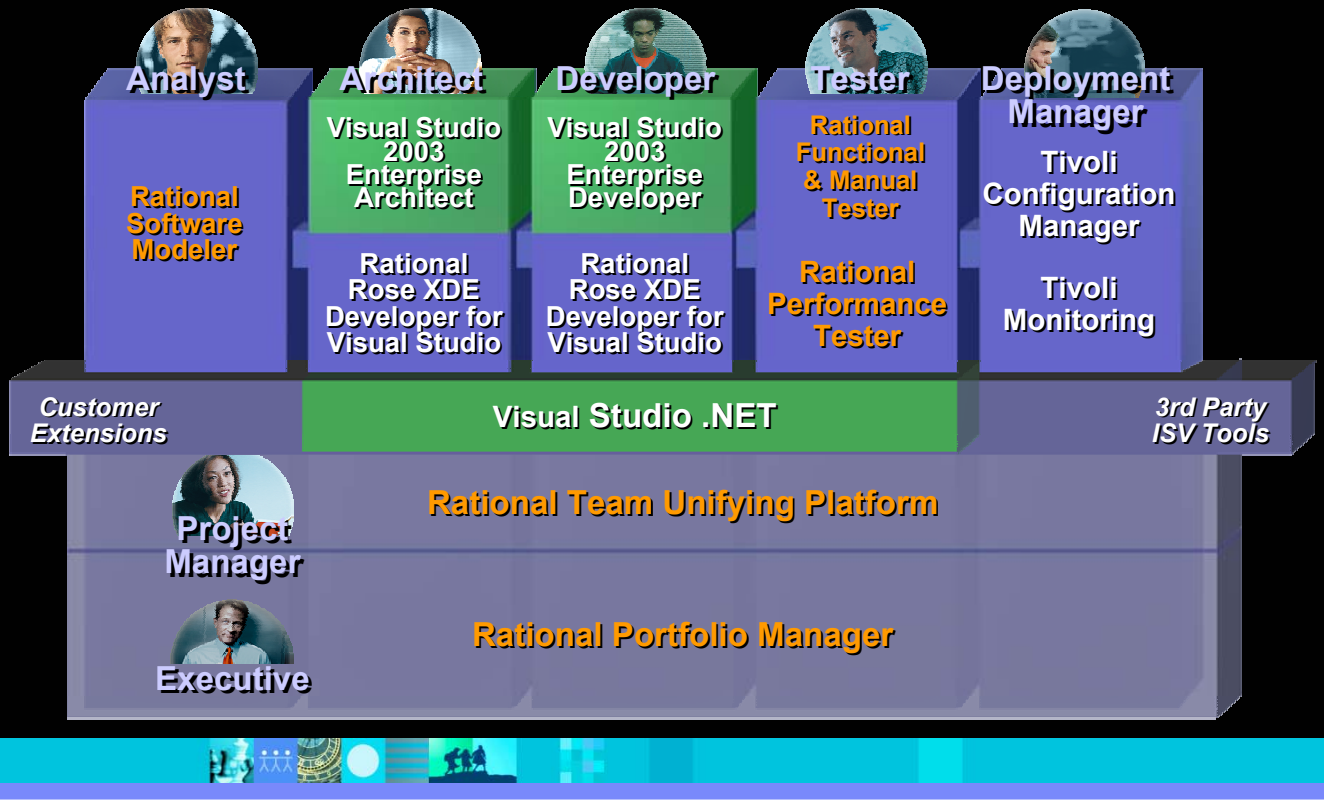


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## IBM Software Development Platform and Eclipse *Raising the level of abstraction, transforming development*

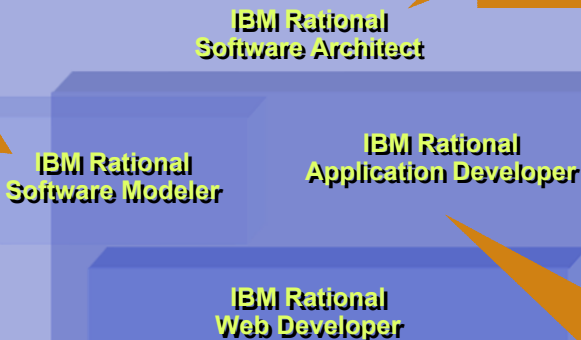




# Design and construction tools

- UML 2.0
- Pattern/Transform Authoring
- Reusable Asset Browser

- UML Language Transforms
- Structural Review & Control
- C/C++ Development Tools



- Web Development
- Web Services Development
- Rich Client Development
- XML & Database Tools
- Java Generation Tools
- Unit Test

- J2EE/EJB & Portal Development
- Component Testing
- Code Review & Runtime Analysis
- UML Visual Editors
- Configuration Management



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## Software quality tools



Tester

- Multi-user performance testing
- Visual test editor
- Real-time reporting
- High scalability

- Automated functional testing
- Choice of test script language
  - Java™ or VB.NET™
- ScriptAssure™
- Data-driven testing

IBM Rational Performance Tester

IBM Rational Functional Tester

IBM Rational Manual Tester

- Manual testing assistance
- Reuse library
- Rich text editor
- Data entry and compare
- Import/export

Eclipse

# Change, requirements and asset management

- Distributed software development with ClearCase
  - Improved WAN access
  - Multi-site administration

**IBM Rational ClearCase**

- Security and compliance with ClearQuest
  - Electronic signature
  - Audit logging for all change records

**IBM Rational RequisitePro**

**IBM Rational ClearQuest**

- Baseline and comparison
- Eclipse based views
- IBM DB2 database support
- Improved Web UI
- Email notification



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## Process and project management

**IBM Rational Unified Process**

- Tool integrated, context sensitive guidance
- Web based, personalized process reference
- Display search results in development environment

**IBM Rational Portfolio Manager**

- Portfolio dashboard
- Detailed financial analytics
- Capacity and resource planning
- Resource leveling and scheduling (including integration with Microsoft® Project)
- Project collaboration
- Integrated report designer
- Time and expense



# since the delivery of the first Rational Suite

## First Fully Integrated Development Platform



- Leveraging open source framework (Eclipse)
- Synergies among tools deliver collaborative development
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