

# IBM SolutionsConnect 2013

IBM TechSoftware nouvelle génération

28, 29 et 30 août

IBM Client Center Paris



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The IBM logo, consisting of the letters 'IBM' in a white, bold, sans-serif font, is located in the bottom right corner of the image. The background of the entire slide features a dark blue color with a pattern of thin, parallel diagonal lines. On the right side, there are several thick, 3D-style bars in various colors (light blue, green, red, purple, yellow) that are arranged in a dynamic, overlapping pattern, suggesting movement or data flow.

# IBM SolutionsConnect 2013

## Session RAT03

# Les solutions innovantes pour les équipes de développement System z

QUIBLIER  
System z Specialist  
Software Group Europe

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roduction to the Integrated Solution for System z® Development

Component tool overviews

Rational Asset Analyser

Rational Developer for System z

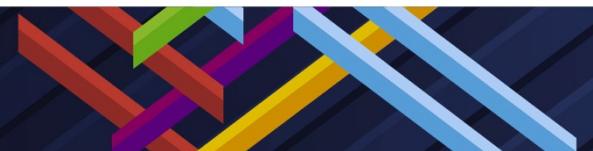
Rational Team Concert with Enterprise Extensions

Rational Developer & Test Environment

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A Day in the Life to develop a System z application with The Rational Integrated Solution for System z Development





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**Decades of application investments**



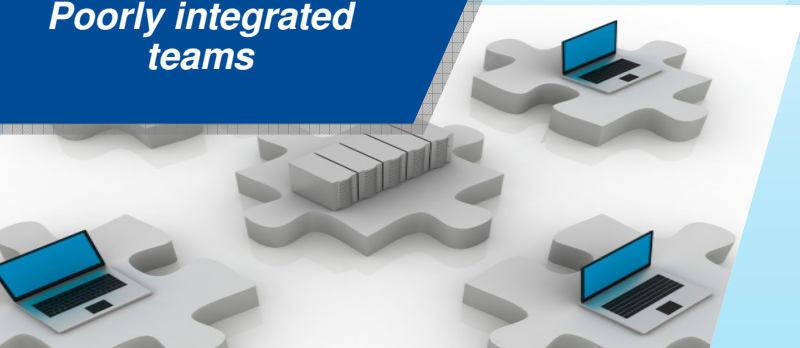
***“We don’t understand the effort, risk and impact of modernizing our legacy applications.”***

**Islands of skills, languages and platforms**



***“Our skills gap keeps growing. How do we stay current with all the language and technology changes?”***

**Poorly integrated teams**



***“We need to enable our teams to collaborate across platforms, languages, and environments.”***

**Infrastructure inefficiency**



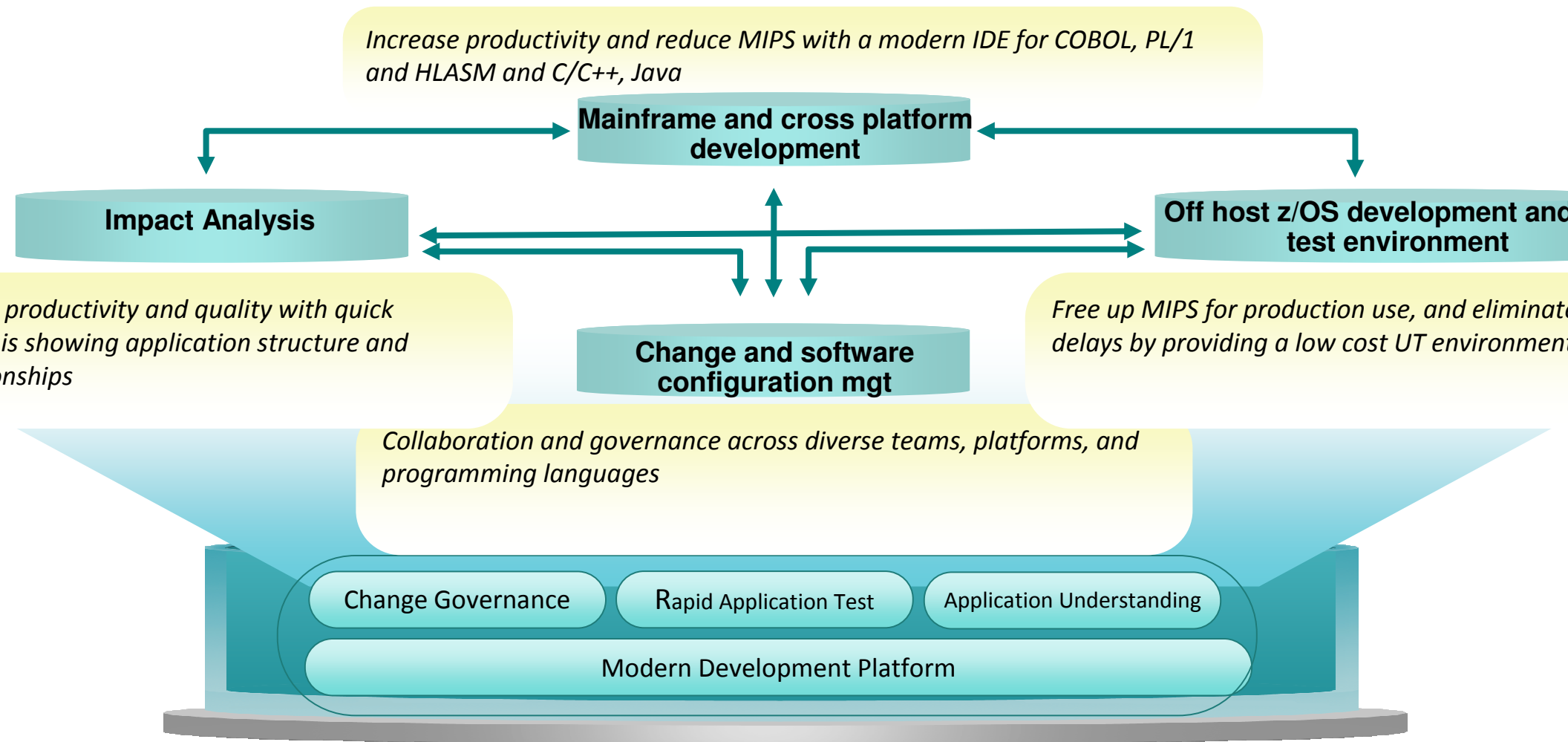
***“We need a cost effective way to improve our infrastructure efficiency and free up capacity to handle more workload.”***

**#SOICCONNECTS**

A Day in the Life to develop a System z application with The Rational Integrated Solution for System z Development

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## Integrated Solution for System z Development



Rational Software Delivery Platform

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## Integrated Solution for System z Development

*Increase productivity and reduce MIPS with a modern IDE for COBOL, PL/1 & HLASM and C/C++, Java*

**Rational Developer for System z**

**Rational Asset Analyzer**

**Rational Developer and Test Environment**

*For productivity and quality with quick analysis showing application structure and relationships*

**Rational Team Concert**

*Free up MIPS for production use, and eliminate delays by providing a low cost UT environment*

*Collaboration and governance across diverse teams, platforms, and programming languages*

Change Governance

Rapid Application Test

Application Understanding

Modern Development Platform

### Rational Software Delivery Platform

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These integrated tools provide a modern development platform that enables high individual and team productivity and extends the Enterprise Lifecycle Management (CLM) to the mainframe developer and allow developers to perform reliable analysis when making a

On the Jazz platform, Rational Team Concert allows Project Managers, Architects, Analysts, Developers and Testers to collaborate on the development of applications on System z and distributed platforms. Rational Team Concert integrates planning, source control, progress tracking, and build management into a single application which can be accessed through a web browser or integrated with Rational Developer for System z to provide a single integrated development environment.

Rational Developer for System z supports CICS®, IMS™, DB2®, and WebSphere® Application Server (WAS) while helping make mainframe development faster, more efficient, and less costly. It accelerates the development of your mainframe applications, including traditional PL/I, C/C++, and Assembler applications, Web services, and XML-based interfaces linking to the web.

Asset Analyzer provides insight into relationships within and among mainframe and composite applications providing better understanding of impact and risks of change.

Rational Developer & Test provides a low cost test environment for mainframe applications, complimenting the Rational Developer for System z. It creates a personal z/OS development and unit test environment on each developers desktop or a shared server.

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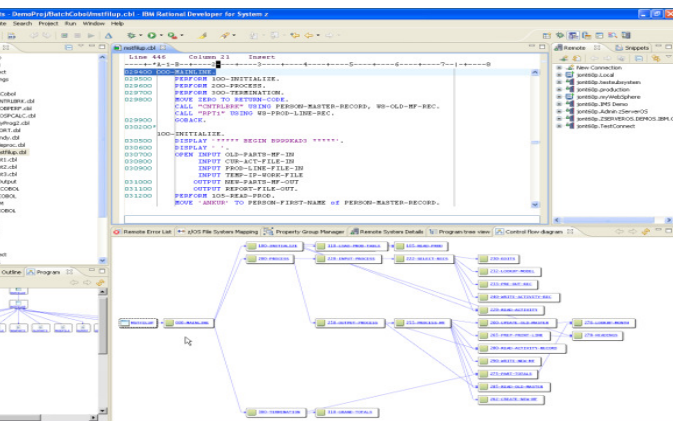
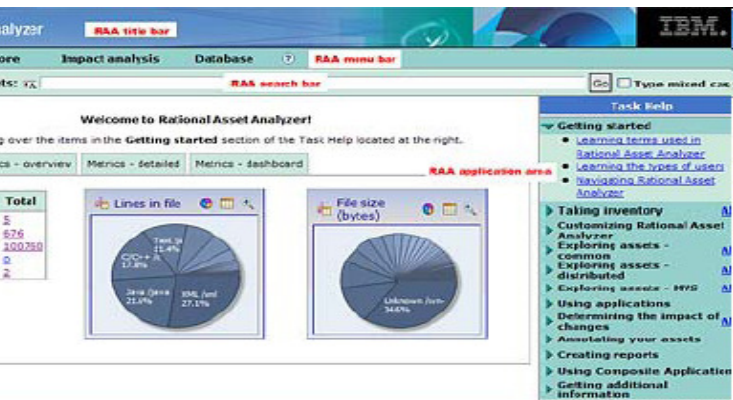
A Day in the Life to develop a System z application with The Rational Integrated Solution for System z Development





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## Rational Asset Analyzer



- **Quickly understand flow and relationships across the enterprise even with little or no documentation**

- Analyze, understand, and navigate complex application source code, including COBOL, FORTRAN, C/C++, Java/JEE, etc...

- **Reduce time to market and risk of resource shortage by understanding the impact of change, upfront**

- Understand source code complexity/fragility
- Analyze impact of potential code changes or database changes
- Find “dead code” for deletion from source base

- **Choose from two user interfaces for ease of access and use**

- Integration with Rational Developer for System z for IDE users
- Browser-based user interface for dashboard and complex query construction

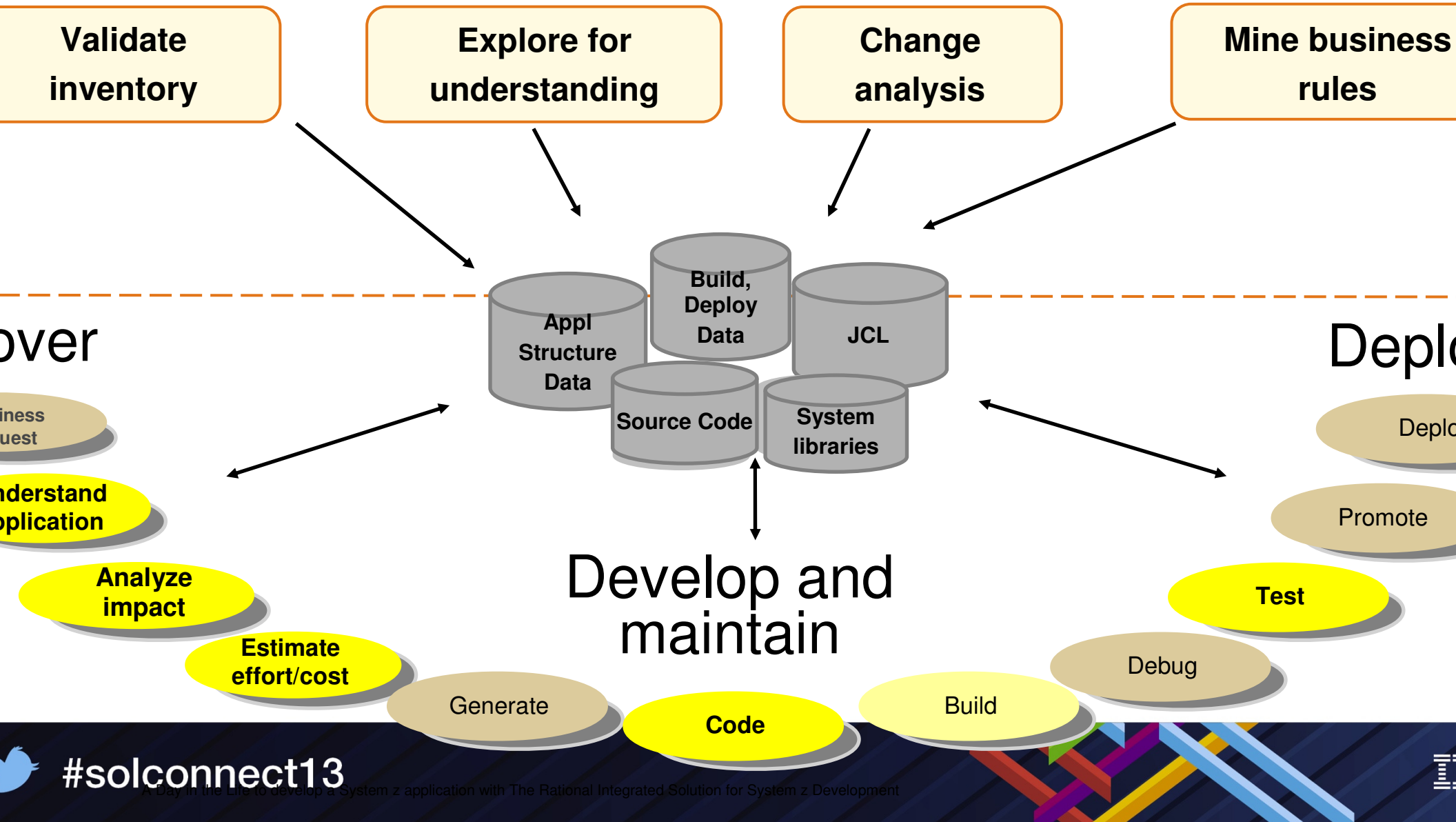
- **Supports enhanced usage Scenarios**

- COBOL Business Rule identification and capture
  - Extend RAA “vocabulary” to map business terms and properties to those used by developers
  - Use RAA's capabilities to find where rules are encoded in the COBOL source
  - Export results in formats consistent with WODM BRMS technologies
- Healthcare industry ICD migrations



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How is Rational Asset Analyzer useful?



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Business intelligence for applications

Recovering lost application knowledge via technical analysis

## Application Artifacts

### Mainframe

- COBOL
- PL/I
- DB2
- IMS/DC
- CICS
- Job Control Language
- High-level Assembler (HLASM)

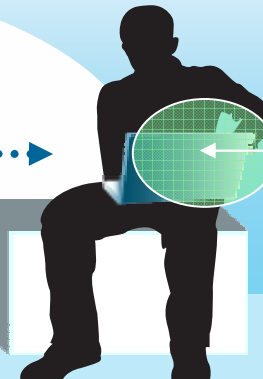
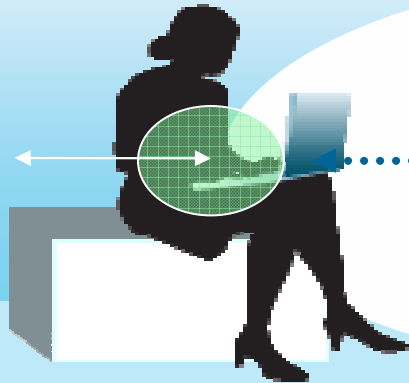
### Distributed

- Java
- WebSphere
- HTML
- WSDL
- Enterprise Archive (EAR)
- Web Archive (WAR)
- C++

## Application inventory

Metadata Repository

Impact analysis



Application assessment

Rational Asset Analyzer

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and risk by quickly determining the full impact of proposed changes

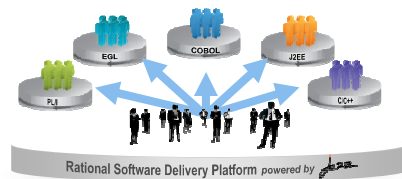
reduced costs via dead code elimination, optimal planning, focused testing and faster development.

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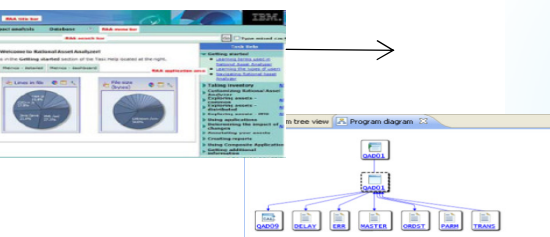
Complete set of System z Development and Test capabilities from an integrated development environment



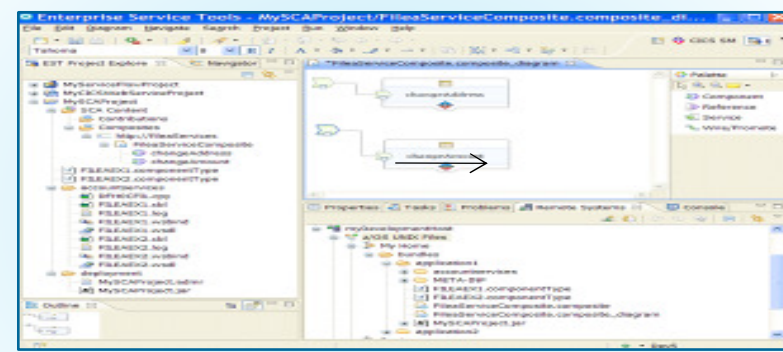
Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS



Integration with Asset Analyzer for Configuration Understanding and Impact Analysis

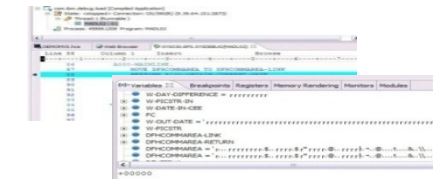


## Rational Developer for System z

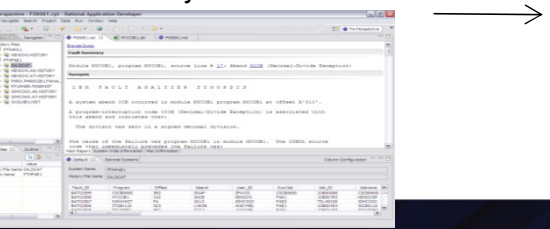


A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, HLASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications

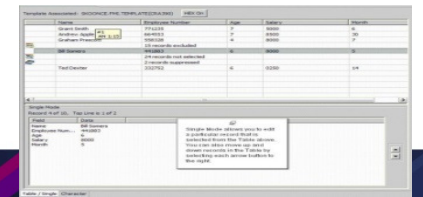
Integration with Debug Tool for Development and Test



Integration with Fault Analyzer for Dump Analysis



Integration with File Manager for file test data handling



Integration with RD&T for flexible access to System z environment

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## Visual Developer for System z v9.0

Modern development environment for the modern mainframe

IDE features to **pull-in new developers** to System z application development with rich, modern development for **COBOL, PL/I, Java, JCL, S, Batch, Stored Procedure**

**easy to use editors** with immediate, inline assistance and use of **host-based resources**

**debug** across complex application layers and boundaries

code, build, test, and deploy **mobile apps** that run on a wide range of mobile platforms; Quickly refactor and extend existing back-end applications and data to new mobile UIs

**analysis** that warns you about poorly written code

new:

Support for CICS TS 5.1 & optimized COBOL v5 compiler

Enhanced JCL editing

Automate unit testing with zUnit

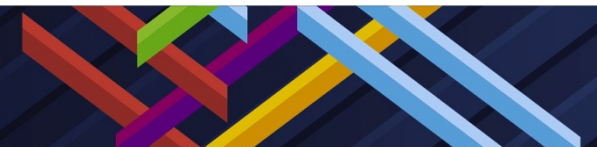
Seamless code review and code coverage



*“Working across several source code files and copy books– and debugging the same time!– is game changing.”*

*COBOL Application Programmer*

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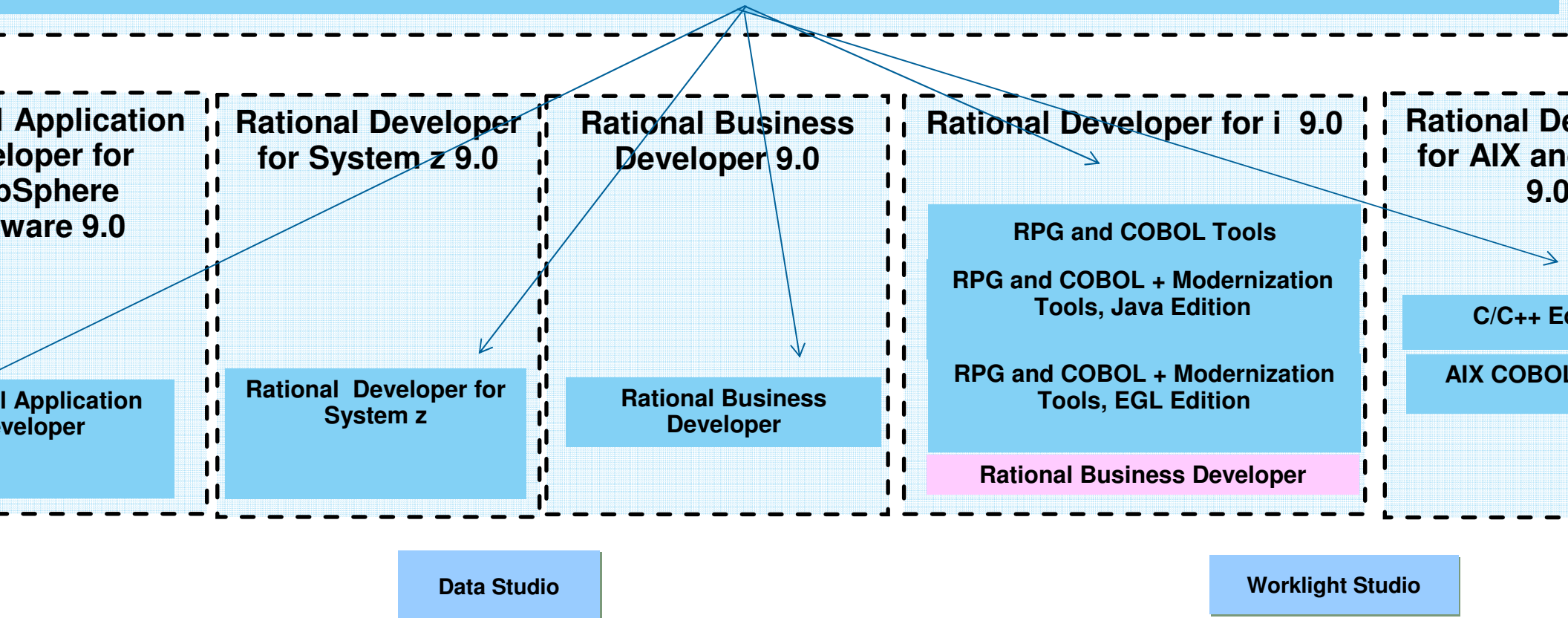




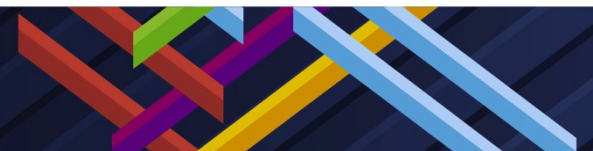
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## Rational Developer for the Enterprise 9.0

### Rational Developer for the Enterprise



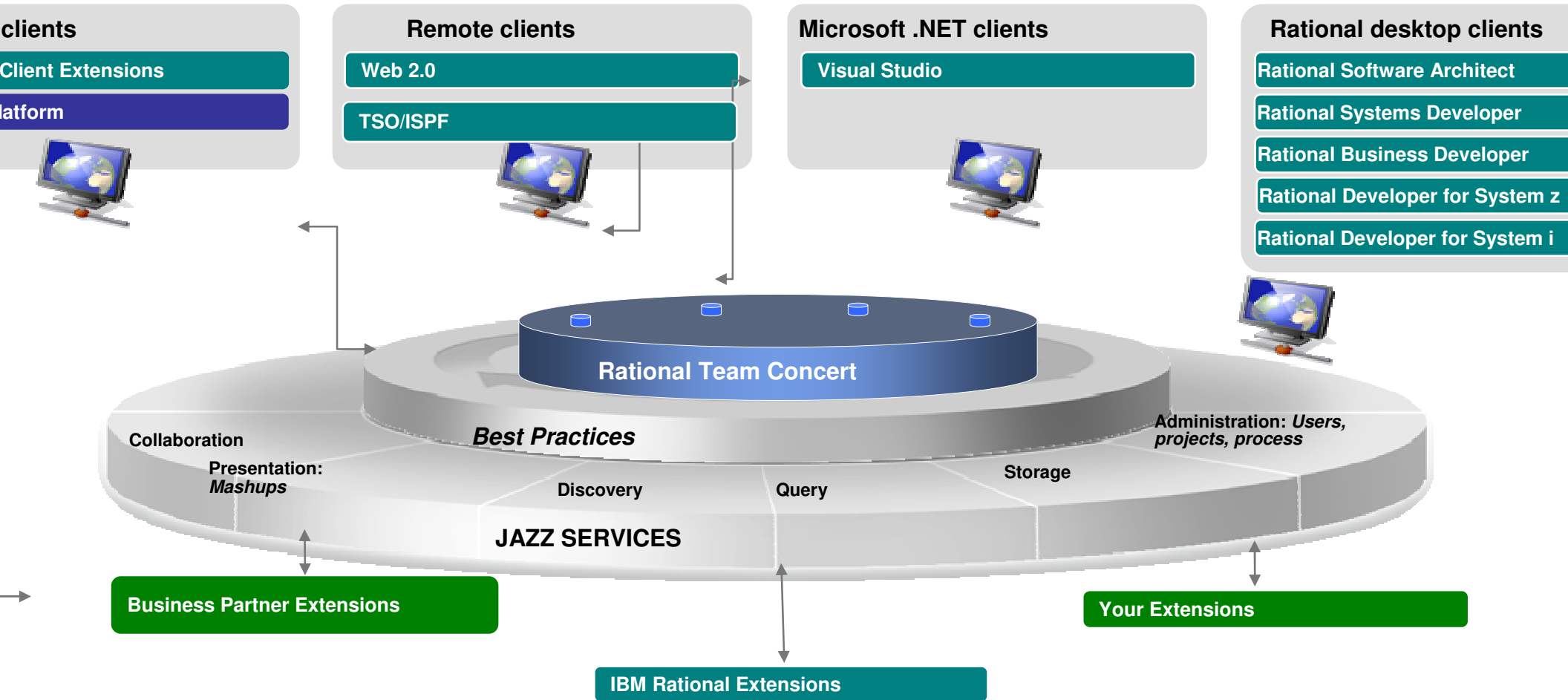
Eclipse 4.2.2



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## Rational Team Concert

Open, extensible architecture supporting a broad range of desktop clients, IDEs and languages

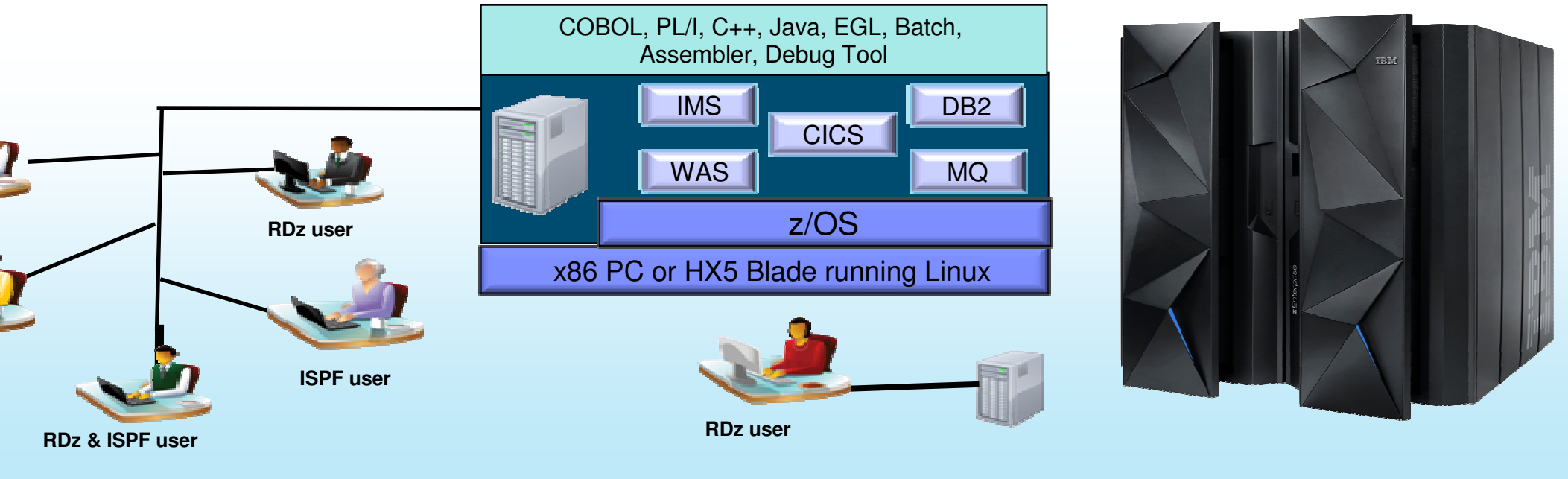


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Collaborative software development using IBM Rational Team Concert

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Final Development and Test Environment for System z (RD&T)  
Eliminate in modern application development for System z



Enable developers to rapidly prototype new applications (Sandbox environment)  
Develop and test System z applications anywhere, anytime! (Developer freedom)  
Free up mainframe development MIPS for production capacity (Hard cost savings)  
Eliminate costly delays by reducing dependencies on operations staff (Time-to-market)

This Program is licensed only for development and test of applications that run on IBM z/OS. The Program may not be used to run production workloads of any kind, nor more robust development workloads without limitation production module builds, pre-production testing, stress testing, or performance testing.

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## Rational Development and Test Environment for IBM System z v9

Reduce System z development costs with high fidelity off host development and test

Key benefit added zEnterprise capability for increased  
frame compatibility

- Parallel Sysplex support via the latest System z coupling

- zEnterprise EC12 platform support

Earlier development and test coverage early in the cycle for higher  
quality applications delivered more quickly

Improve hardware utilization and simplify  
management

- support for virtualization technologies, including VMWare  
here and IBM zEnterprise BladeCenter Extension

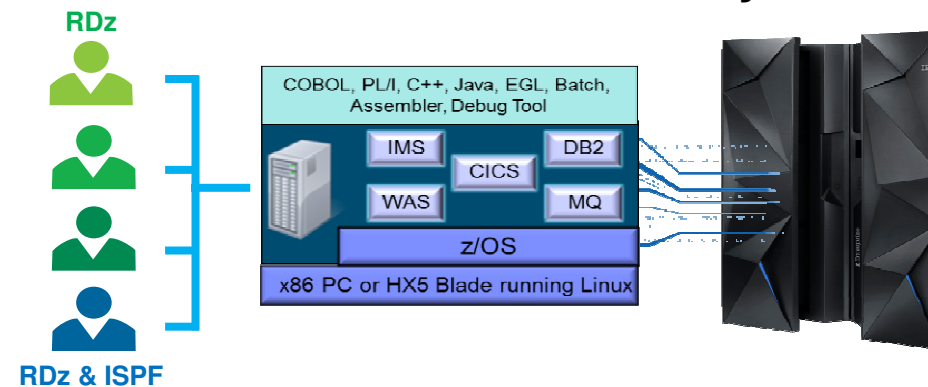
Flexible licensing to support automated  
scaling and variable usage patterns

Vendredi à 11:45 Session RAT10

Faciliter les développements et tests sur System z  
Pierre PELLET

ENHANCE

### Rational Development and Test Environment for System z



Open Lifecycle Integration and Services Management Platform



"RD&T provides us with the ability to try development approaches that may introduce into a normal environment with none of the associated risks. It provides an environment where we can start a new project without waiting for setup delays inherent in our day-to-day processes."

Development Team Lead





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## Enterprise COBOL for z/OS v5.1 (Ann: 4/23; GA:6/21)

### Key to supercharging IBM System z Applications

Advanced technology designed to optimize COBOL programs and fully exploit z hardware (including latest z12 hardware)

Delivers greater than 10% performance improvement over Enterprise COBOL v4 for well structured, CPU-intensive batch applications on System z<sup>1</sup>

Many numerically intensive programs have shown performance increases greater than 20%<sup>1</sup>

Maintains compatibility with previous COBOL releases

Runs on z/OS V1.13 and z/OS V2.1

Enables programming and application modernization capabilities

Enables users to deliver enhancements to business critical applications quicker with less cost and lower risk

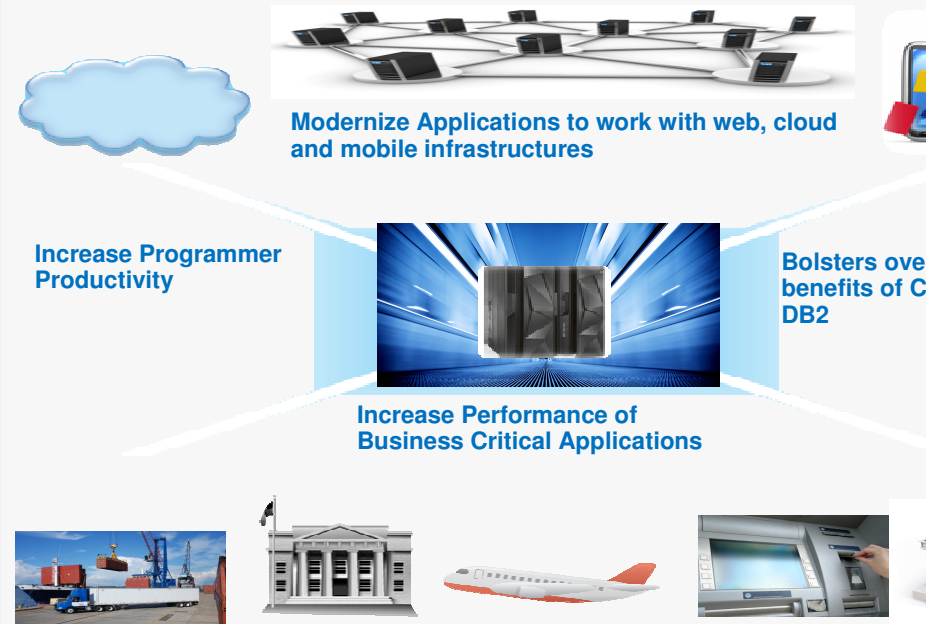
Shows user who implement sub-capacity tracking to reduce administrative overhead

Enterprise COBOL Developer. Trial now available

Enterprise PL/I for z/OSV4.4 (GA:Sept 6)

Enterprise C/C++ for z/OS V2.1 XL C/C++ (GA Sept 30)

where Tradition Meets Innovation...



"Our testing of COBOL V5 shows a significant performance improvement for mathematical applications in a multi-national financial services company with a continually narrowing batch window, that improve service levels, which is very important to us. It will help us meet our Service Level Agreements and reduce costs by CPU utilization."

Michael A Todd, Software Architect

Multi-national financial services company

<sup>1</sup> Results are based on an internal compute-intensive test suite. Performance results from other applications may vary.

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## Review of steps in scenario

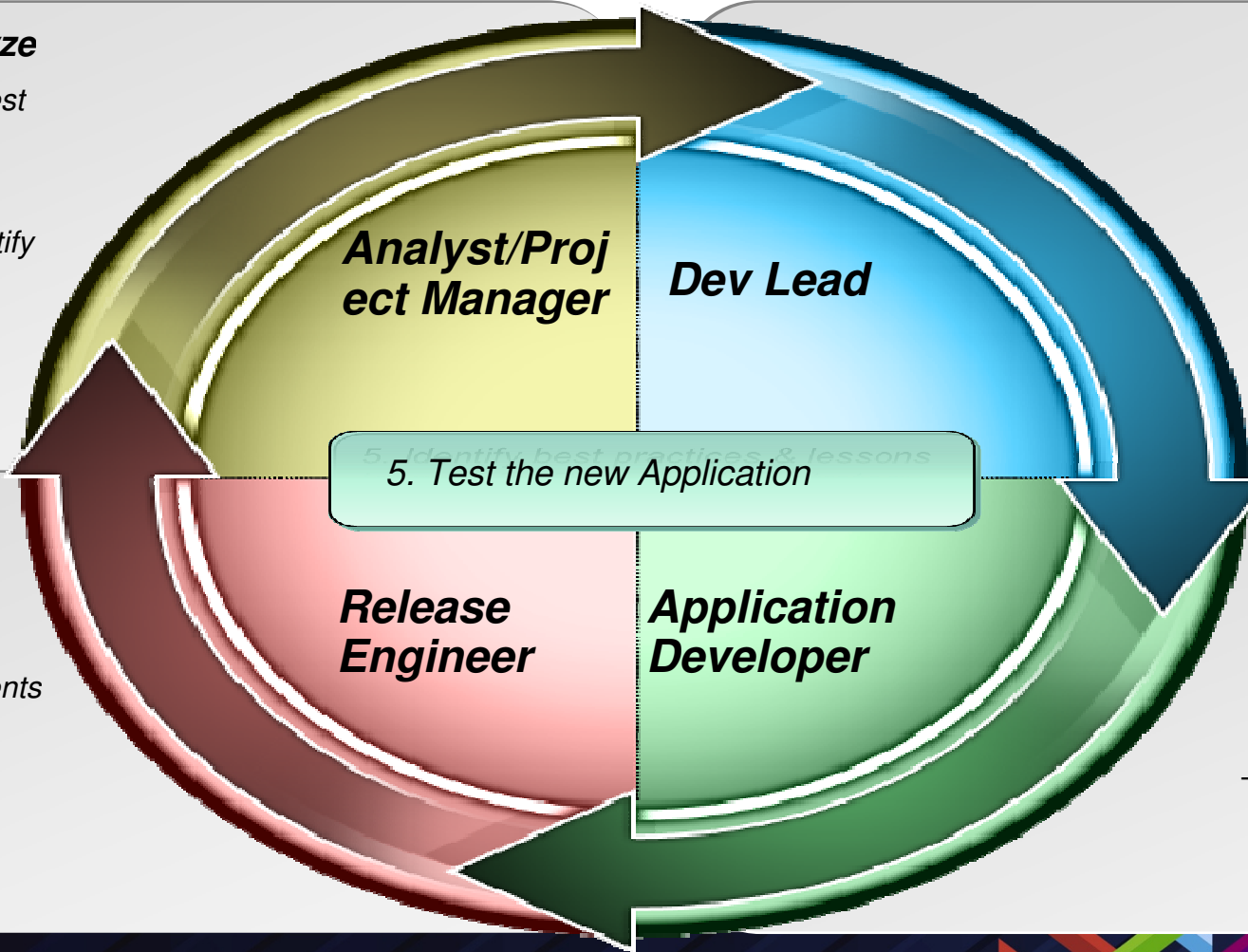
KH Enterprise Bank meet their goal of business transformation

### 1: Identify, Scope and Analyze

- New Enhancement Request
- Requirements coverage
- Application issue
- Source repository to identify dependencies
- Analysis with team

### 2: Build, Promote and Enhance to test

- 'Official' build of application
- Through to test environments
- Final release package
- Package to test



### 2: Plan

- Plan the Development
- Triage into current
- Create implementation
- Assess C

### 3: Implement required build, test and

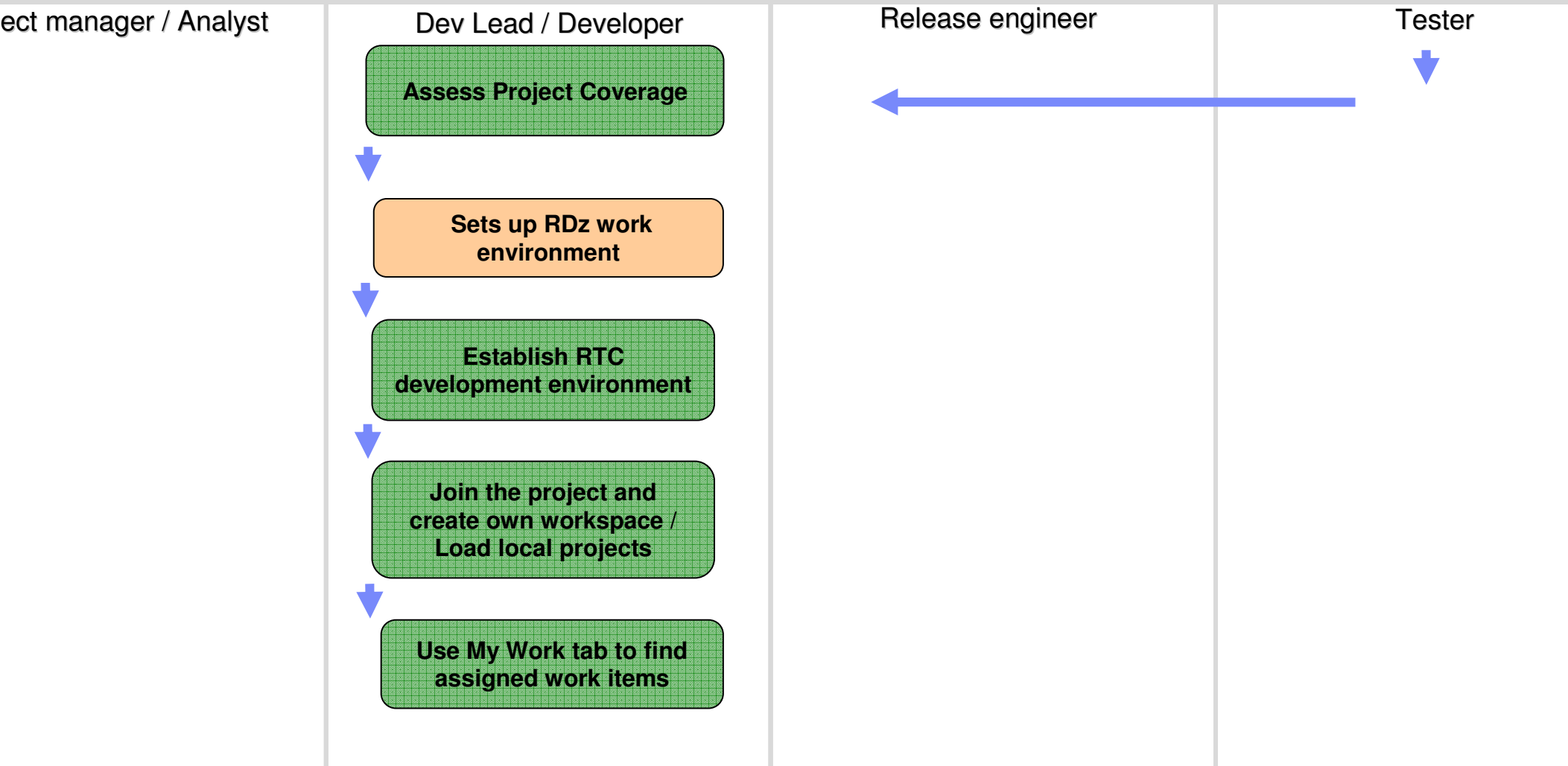
- Create work e
- Implement, personal build, review
- Deliver ne

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## Sequence of events



Rational Developer

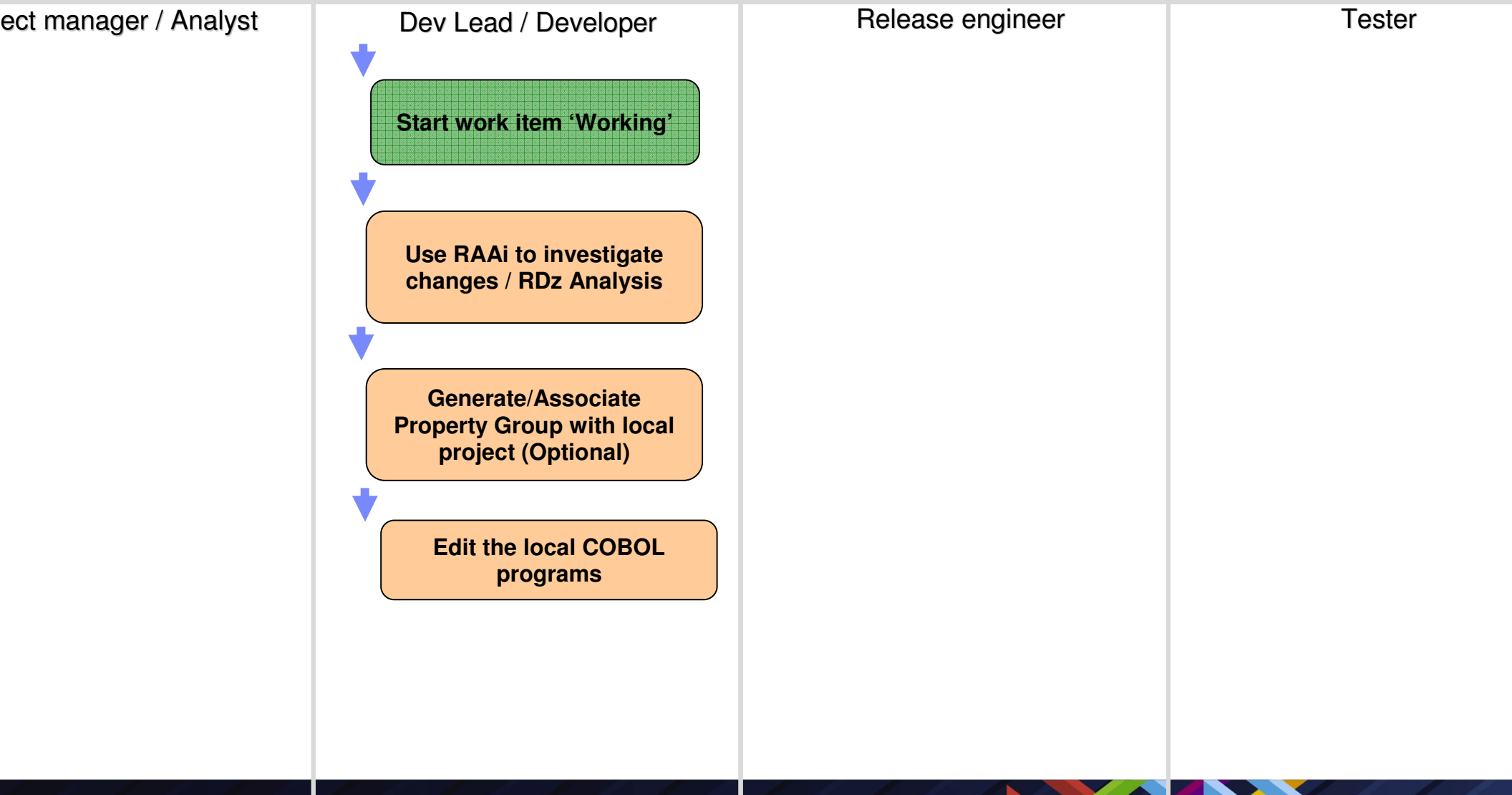
RTC/RRC/RQM

RAA

PCOMM

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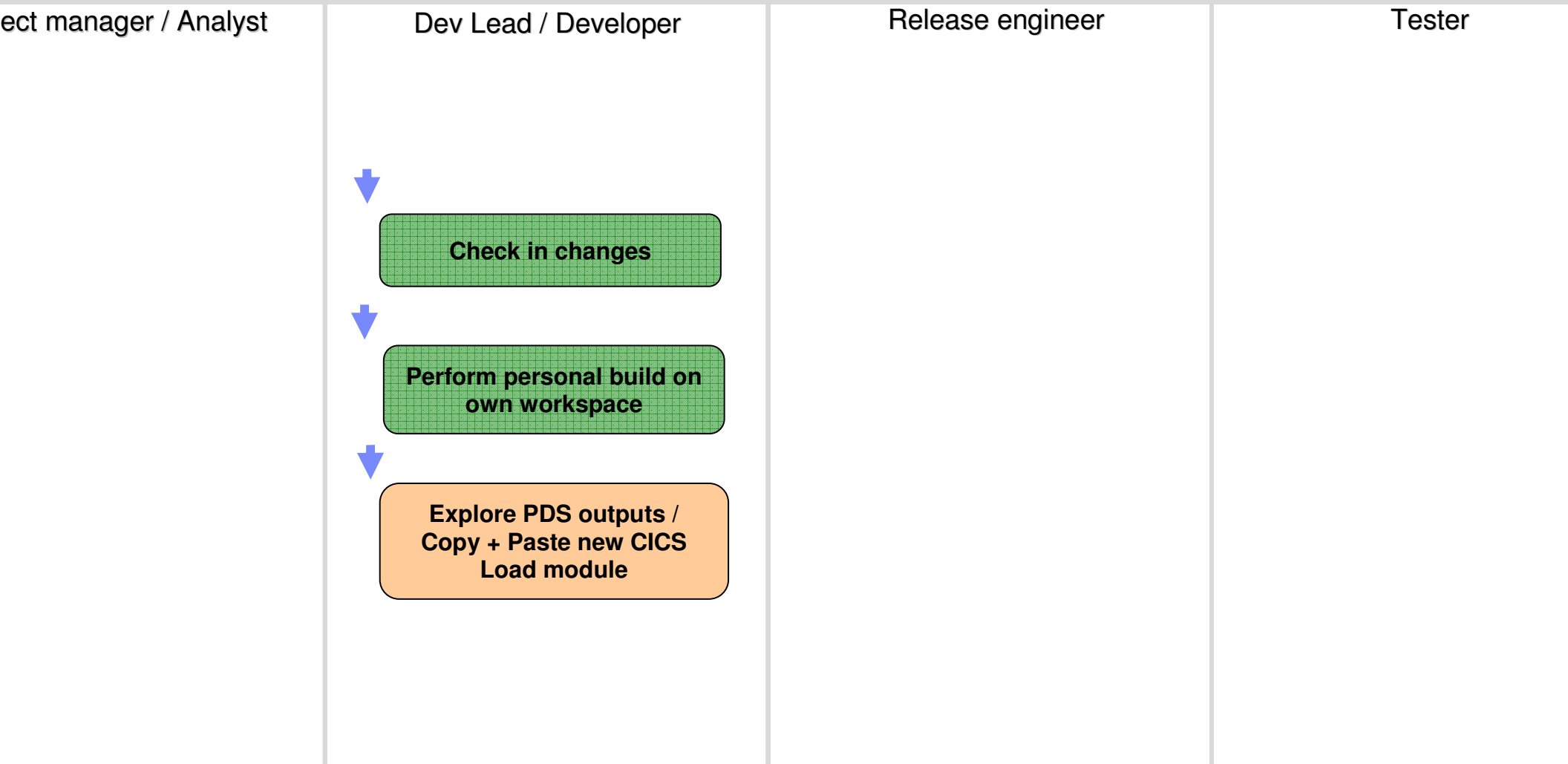
Sequence of events (continued)





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Sequence of events (continued)

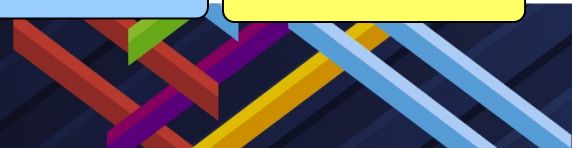


Rational Developer

RTC/RRC/RQM

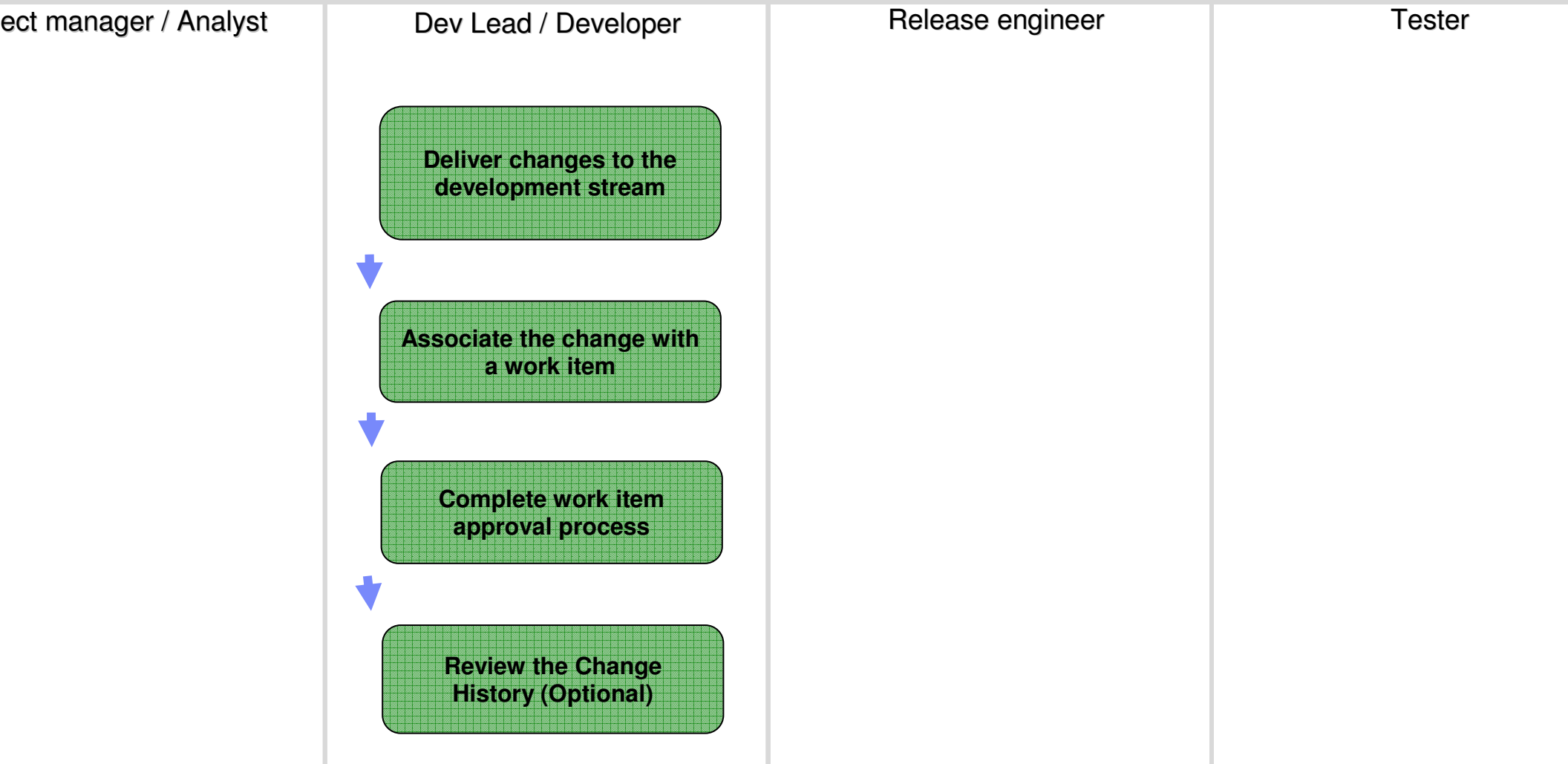
RAA

PCOMM



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Sequence of events (continued)

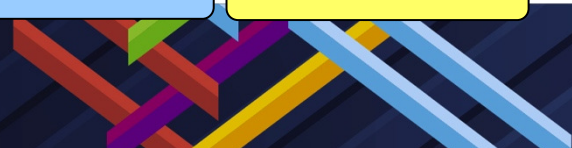


Rational Developer

RTC/RRC/RQM

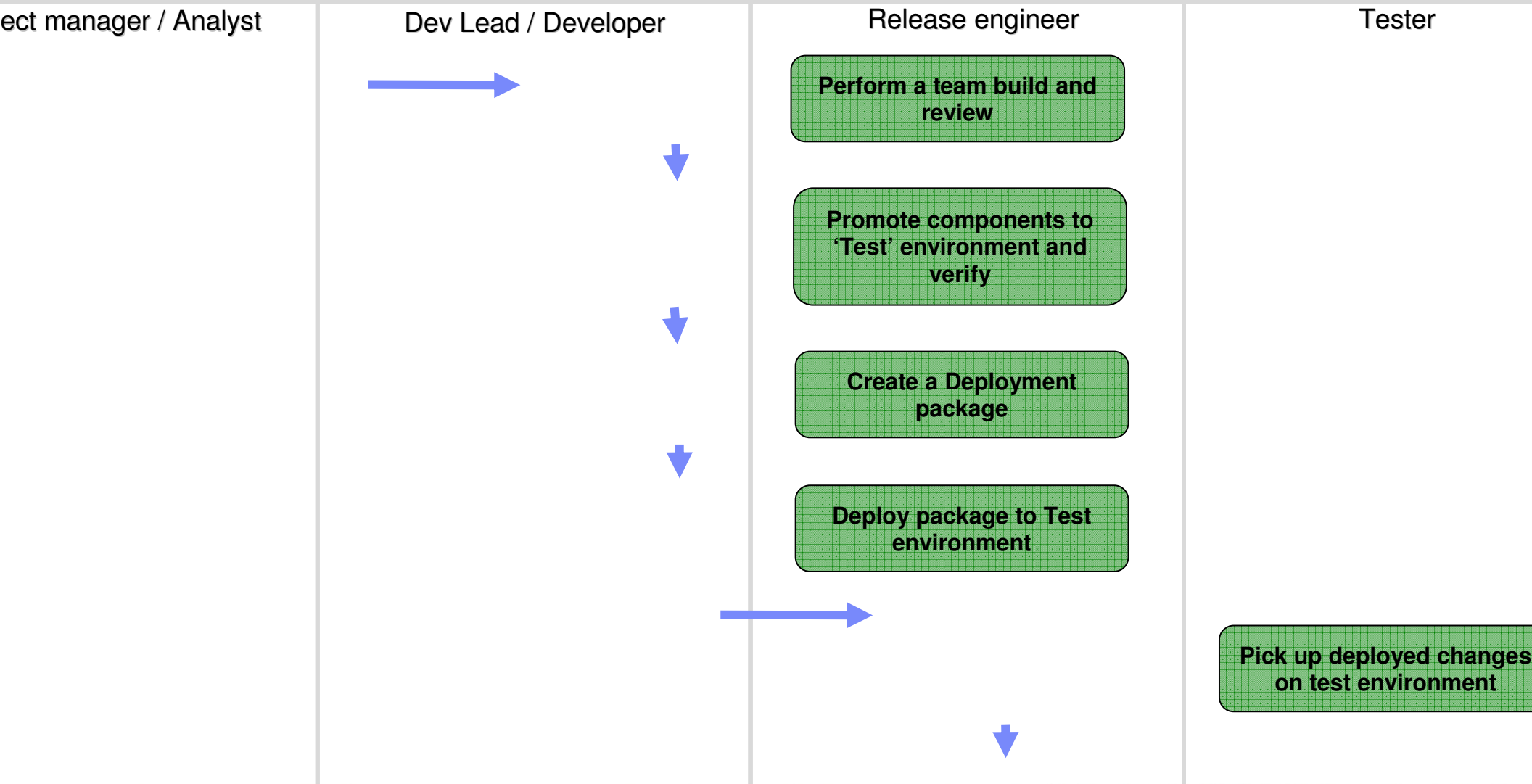
RAA

PCOMM



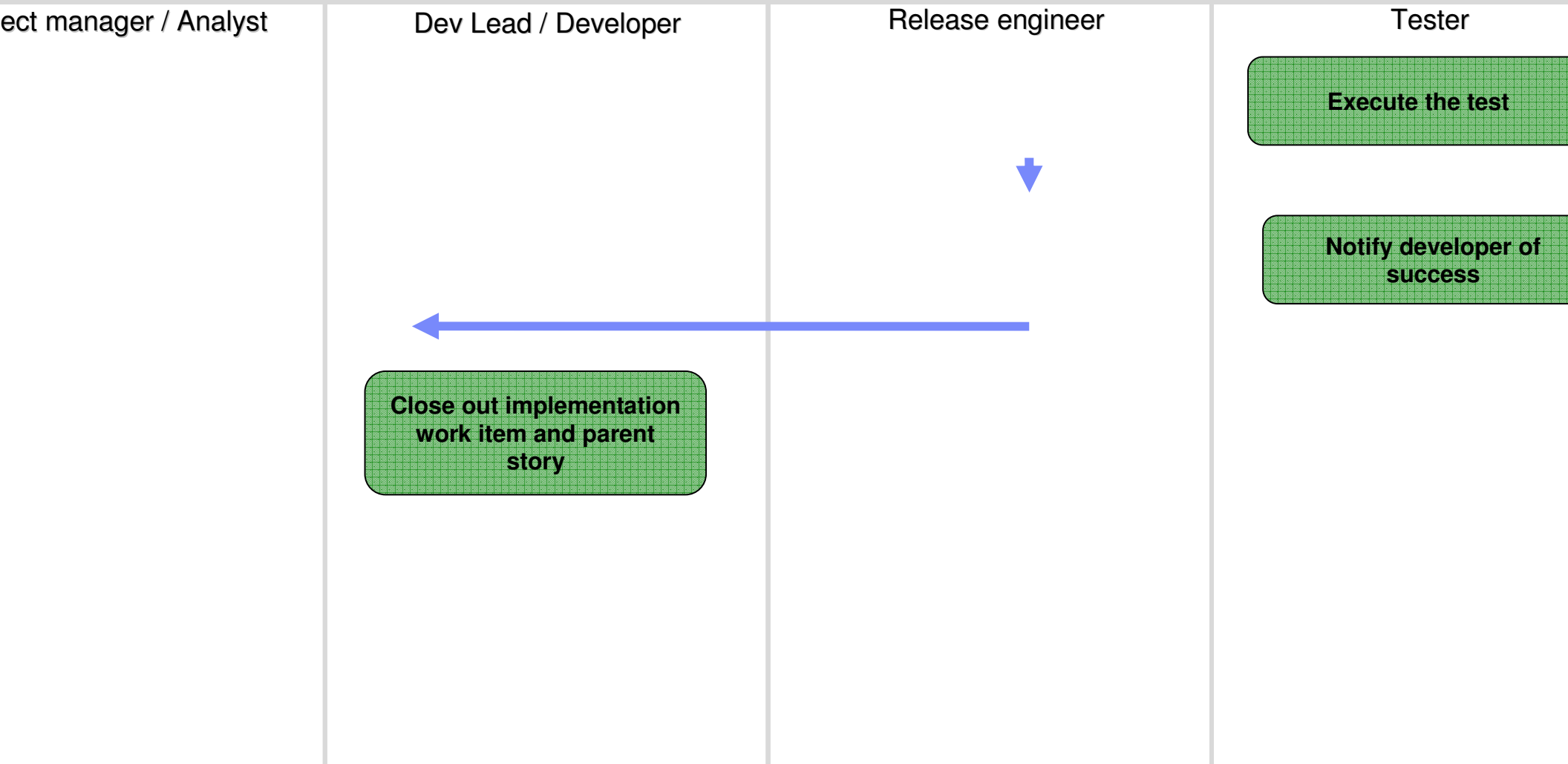
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## Sequence of events (continued)



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## Sequence of events (continued)

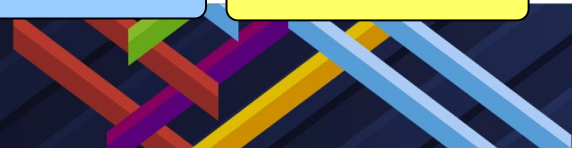


Rational Developer

RTC/RRC/RQM

RAA

PCOMM





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## Questions



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VIVASTREAM

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