IBM zEnterprise Technology Summit

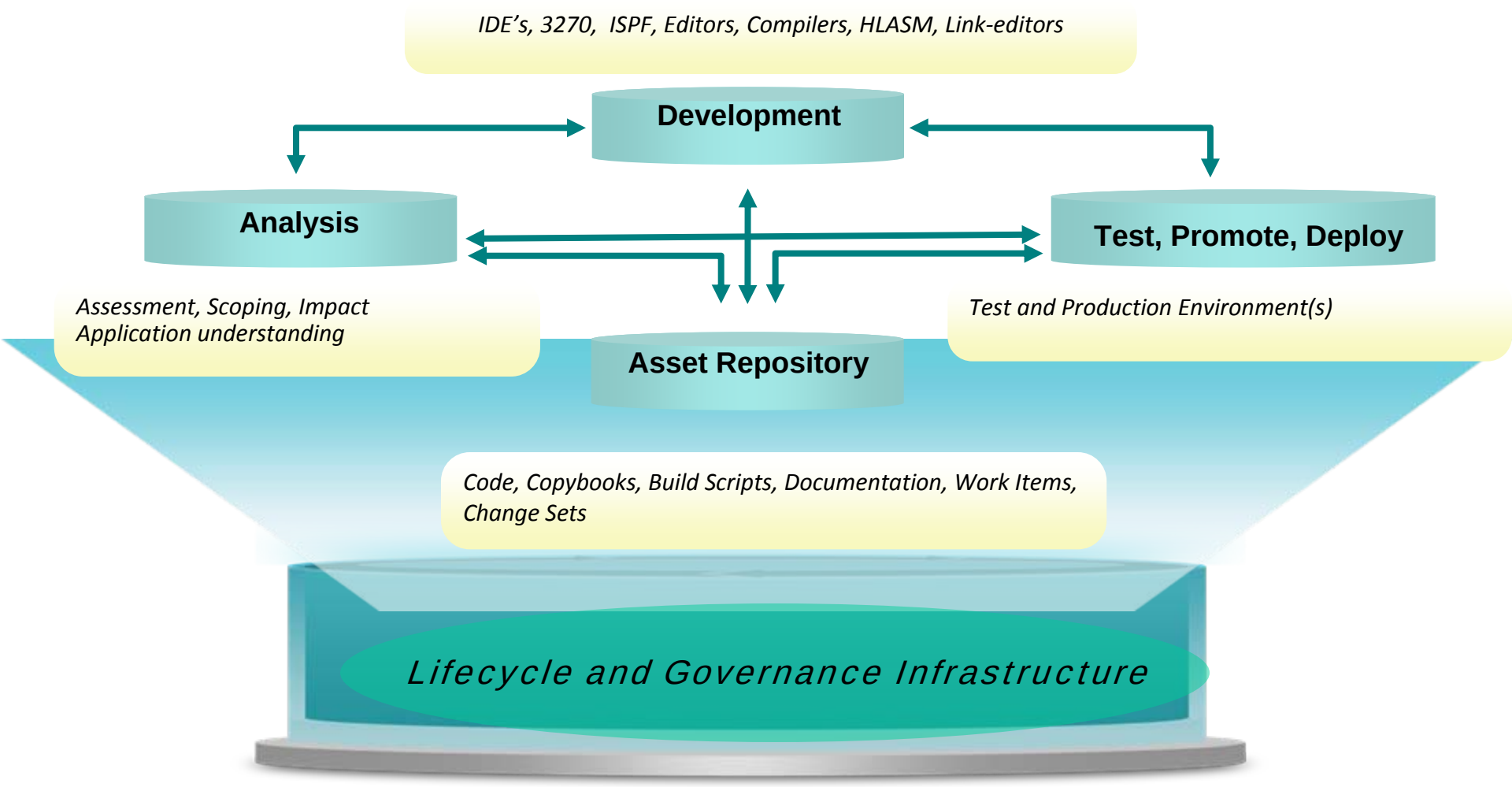
Track 4

Multiplatform development

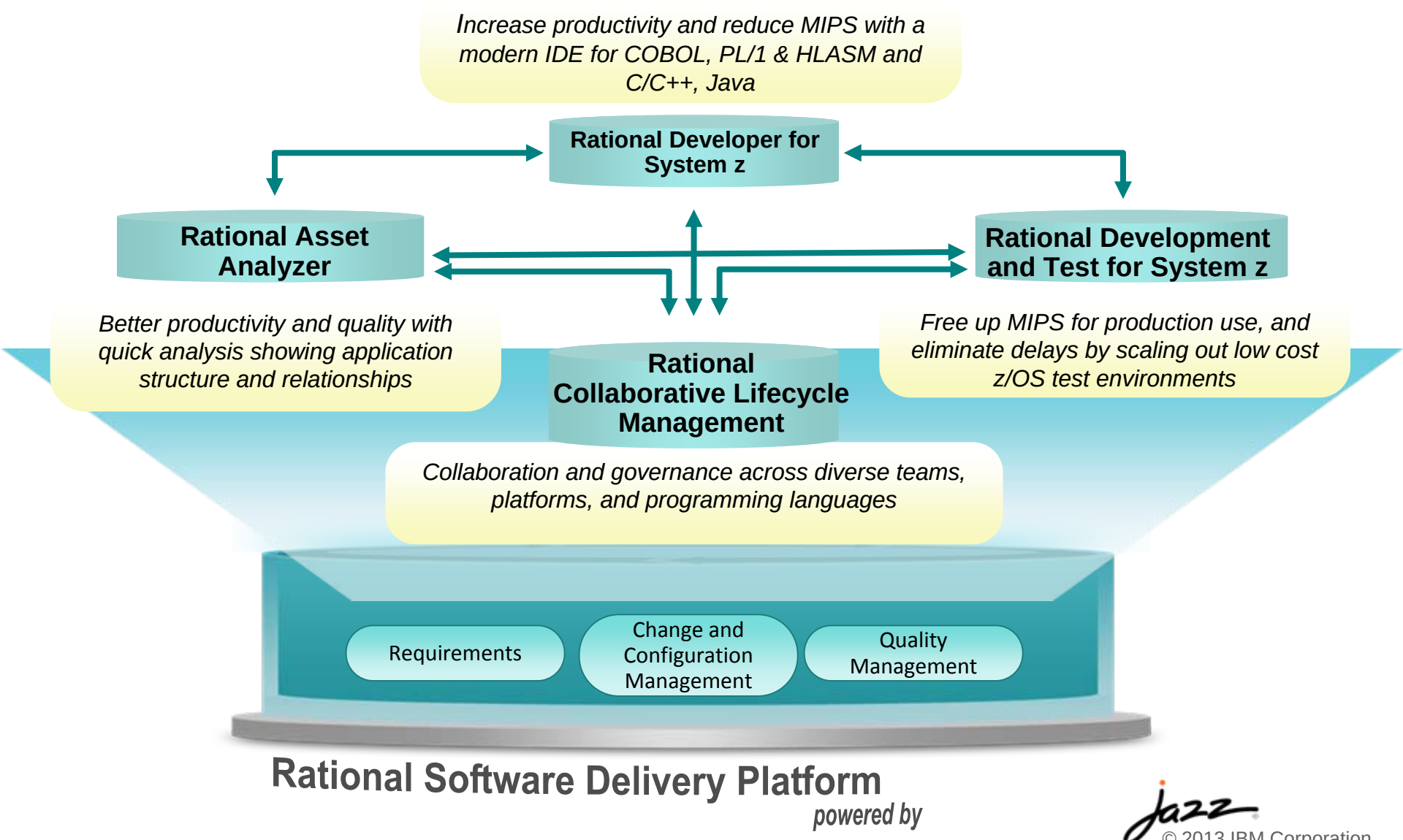
Part I & II – Team collaboration, application insight, development & debug

Part III – z/OS Promotion and deployment

Infrastructure for supporting software delivery

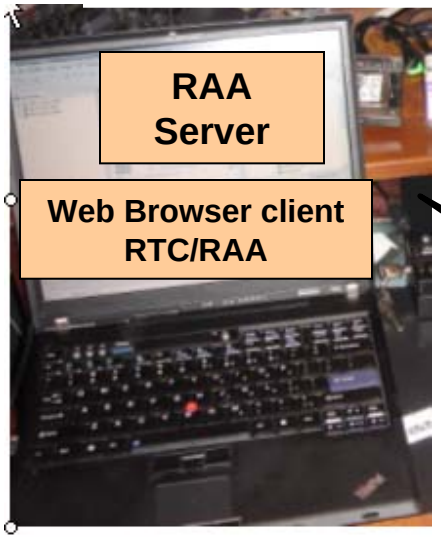


IBM Rational Integrated Solution For System z Development



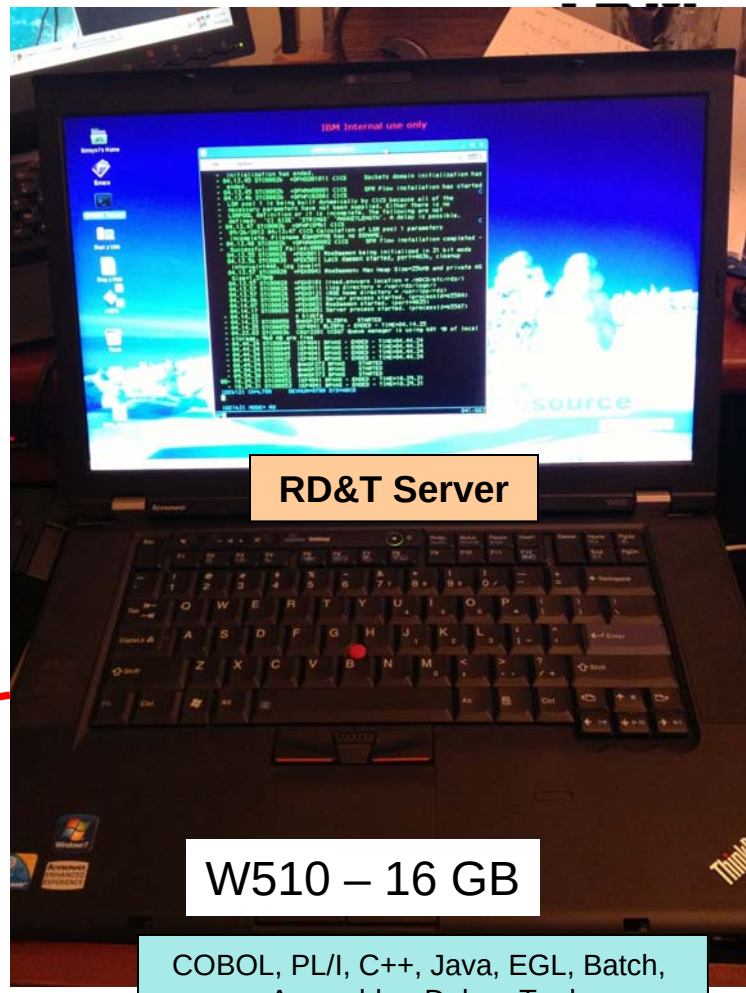
www.ibm/software/rational

Topology used in this Demo

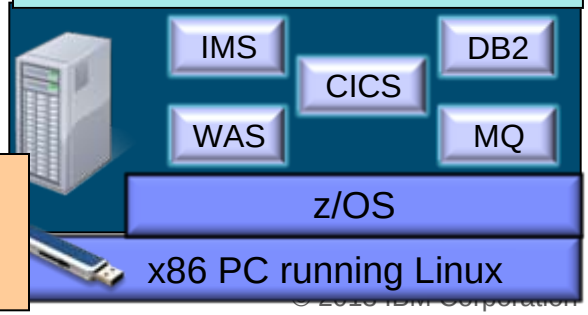


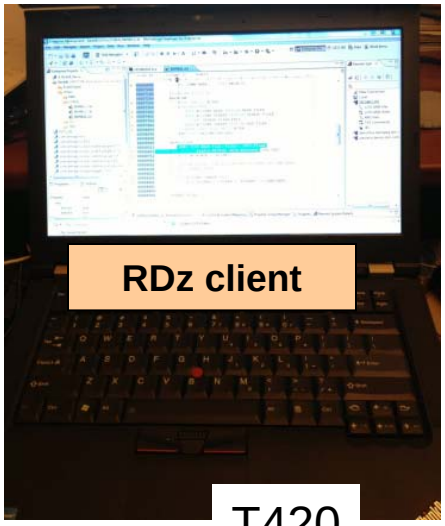
Ursula/Alex

Wireless Router



COBOL, PL/I, C++, Java, EGL, Batch, Assembler, Debug Tool





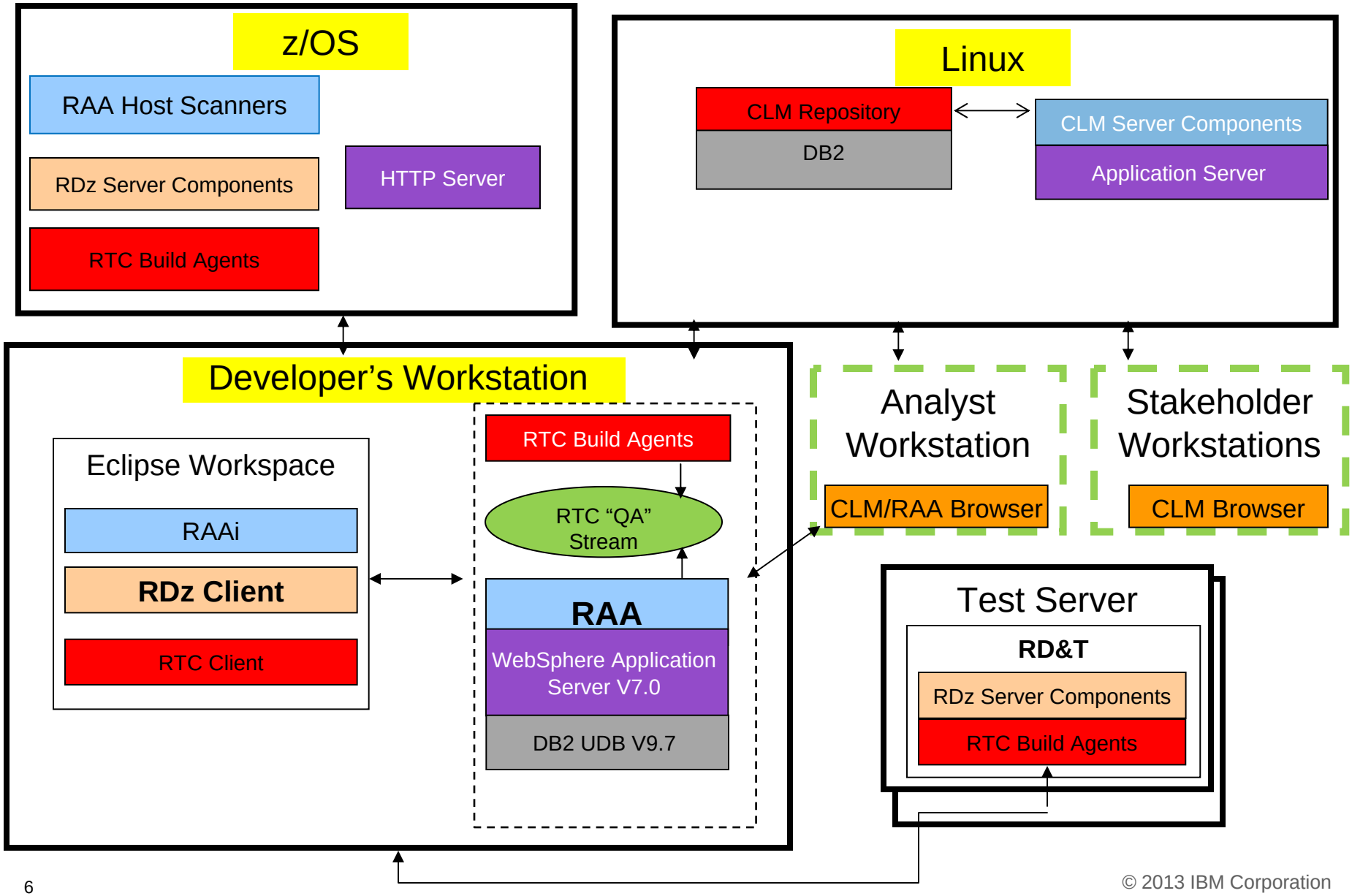
Dave/Deb

- Project Manager: Ursula
- Architect/Analyst: Alex
- Mainframe Developer: Deb
- Web Developer: Dave
- Release Engineer: Rebecca

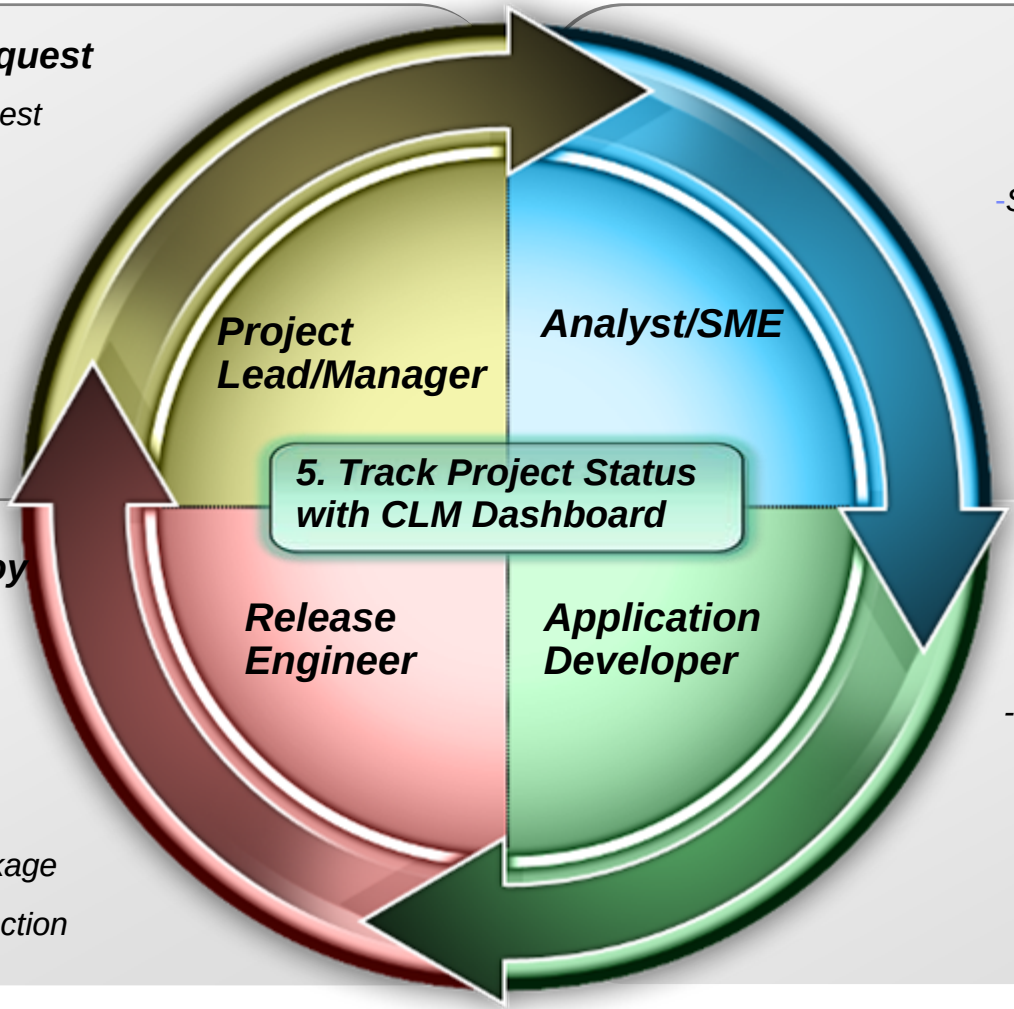
CLM (running on Linux)

CLM = Collaborative Lifecycle Management

High-Level Topology of the solution



Overview of the Scenario



1: Initiate Change Request

- Submit new change request

- Assign to Analyst

2: Analyze

- Analyze Application to be changed

-Size/Scope the effort for the change

- Assign to a developer

3: Implement required changes, build and deliver

- Analyze source repository to identify modifications

- Implement and test modifications

- Perform personal build and deliver new features

4: Promote and deploy enhancement

- Create 'official' build of application

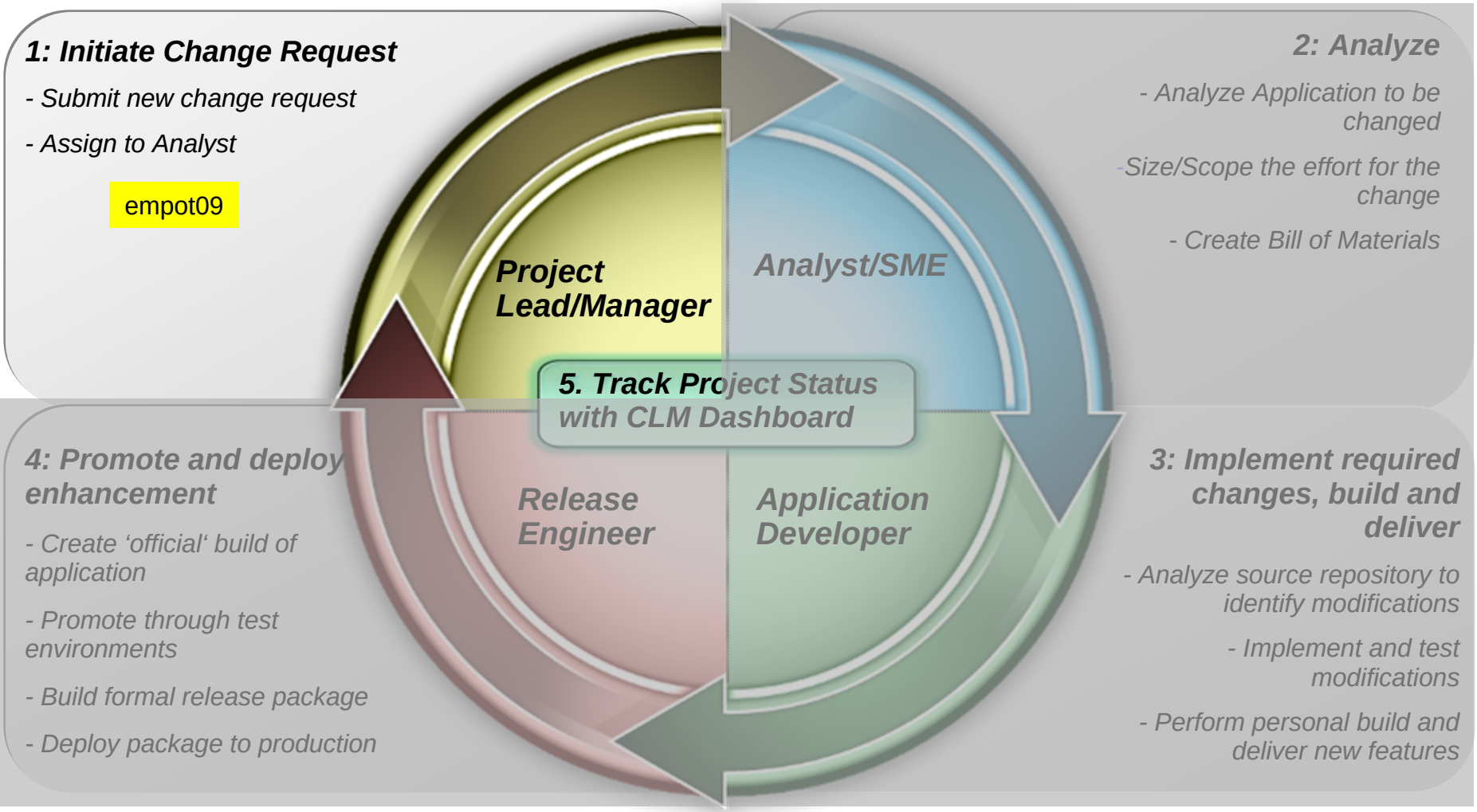
- Promote through test environments

- Build formal release package

- Deploy package to production

CLM = Collaborative Lifecycle Management

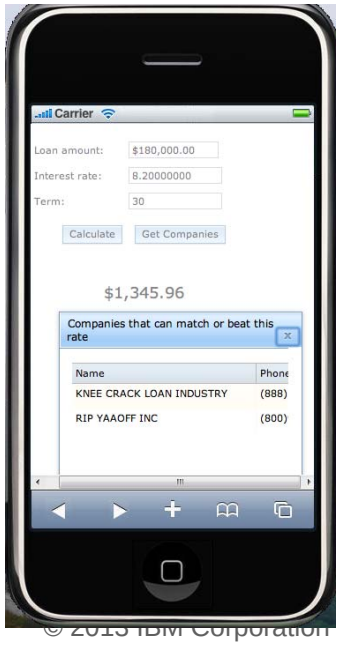
Part 1: Initiate Change Request – **Ursula** the Project Manager



- *The Story*

- JK Enterprises Bank is a global financial institution serving clients across the world. JK management has broadened their customer service offerings by delivering more self-service capabilities, including a recently released application enabling clients to use a mobile phone to model a mortgage to determine the monthly payment for a given loan amount, percentage rate, and loan term. The application further allows the customer to view existing mortgage companies that can provide the modeled loan to meet the customers' mortgage needs.

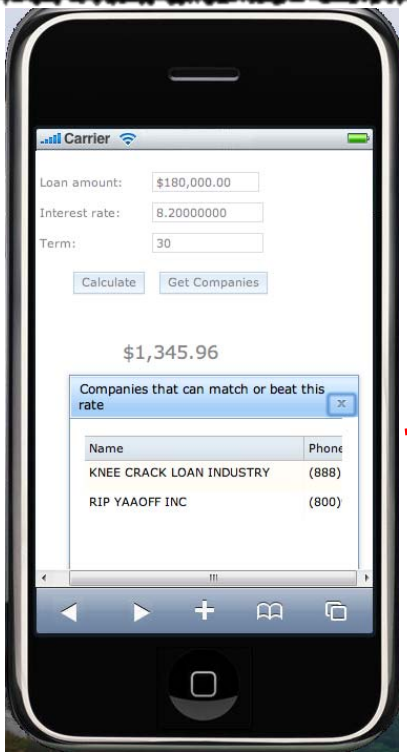
- The mobile phone application is implemented as a multi-channel extension to an existing mainframe-based COBOL CICS application that has provided this same capability via a green screen user interface for years. With the new offering, a mobile phone user can run the JKE Banking Mortgage application to assess repayment levels over different loan time frames and also receive potential vendor offerings based on their investigations.

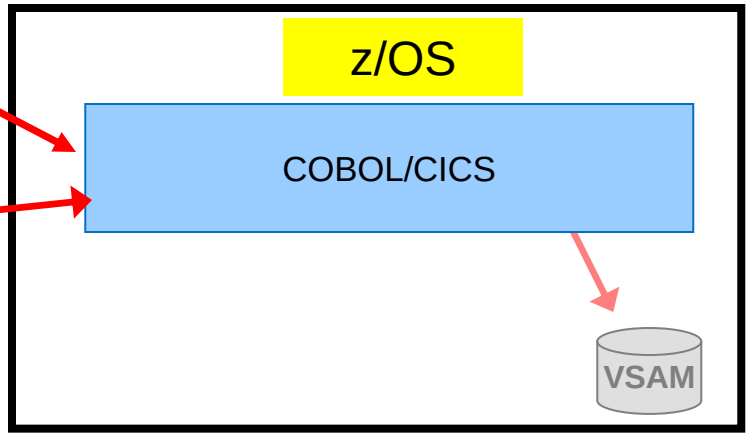


Scenario : Application change is required

```
                JKE MORTGAGE CALCULATOR   - 12/15/2012

        Amount of Loan:              180000
        Length of Loan in Years:     30
        Interest Rate:               8.2


        Press F3 to quit or Enter to calculate loan
Press PF9 to see companies that can match or beat this rate

        Monthly Payment:                    1,345.96
```

```
                        Better Mortgage Rates

Company                       Phone Number   Interest Rate Monthly Payment
KNEE CRACK LOAN INDUSTRY      (888)123-4444          6.9         1,191.51
RIP YAAOFF INC                (800)968-6933          7.2         1,227.92
```



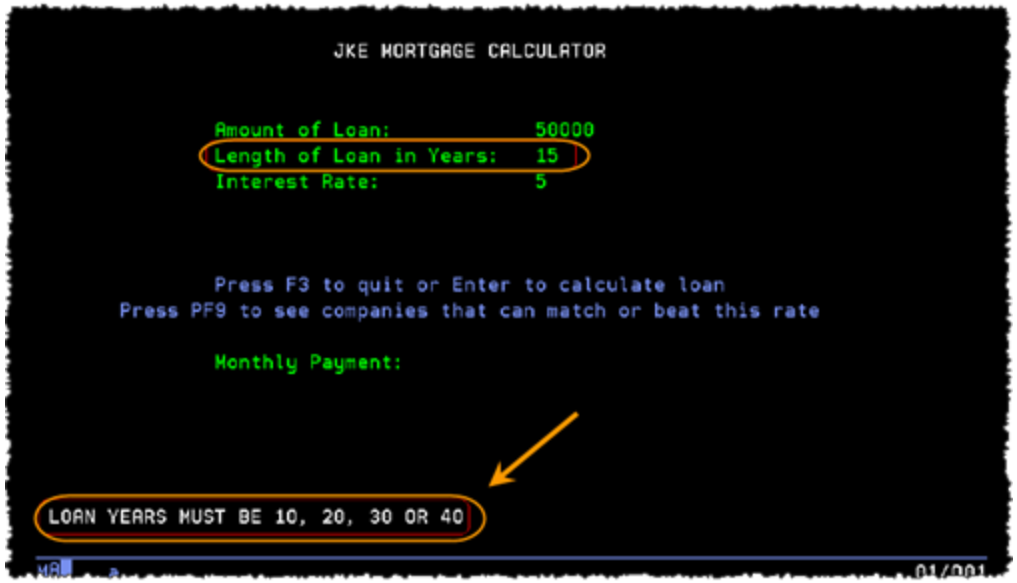


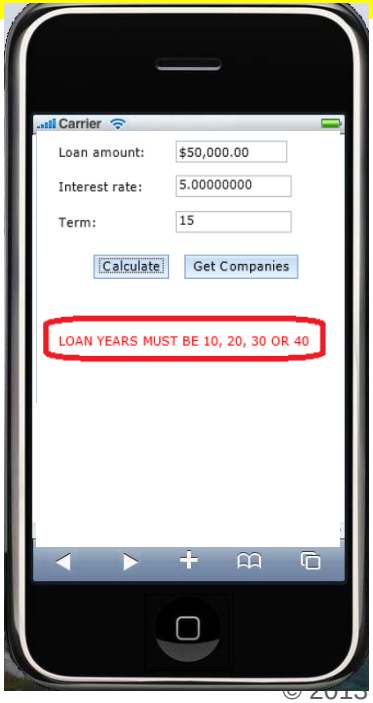
- Existing COBOL/CICS/BMS application

Request for Enhancement

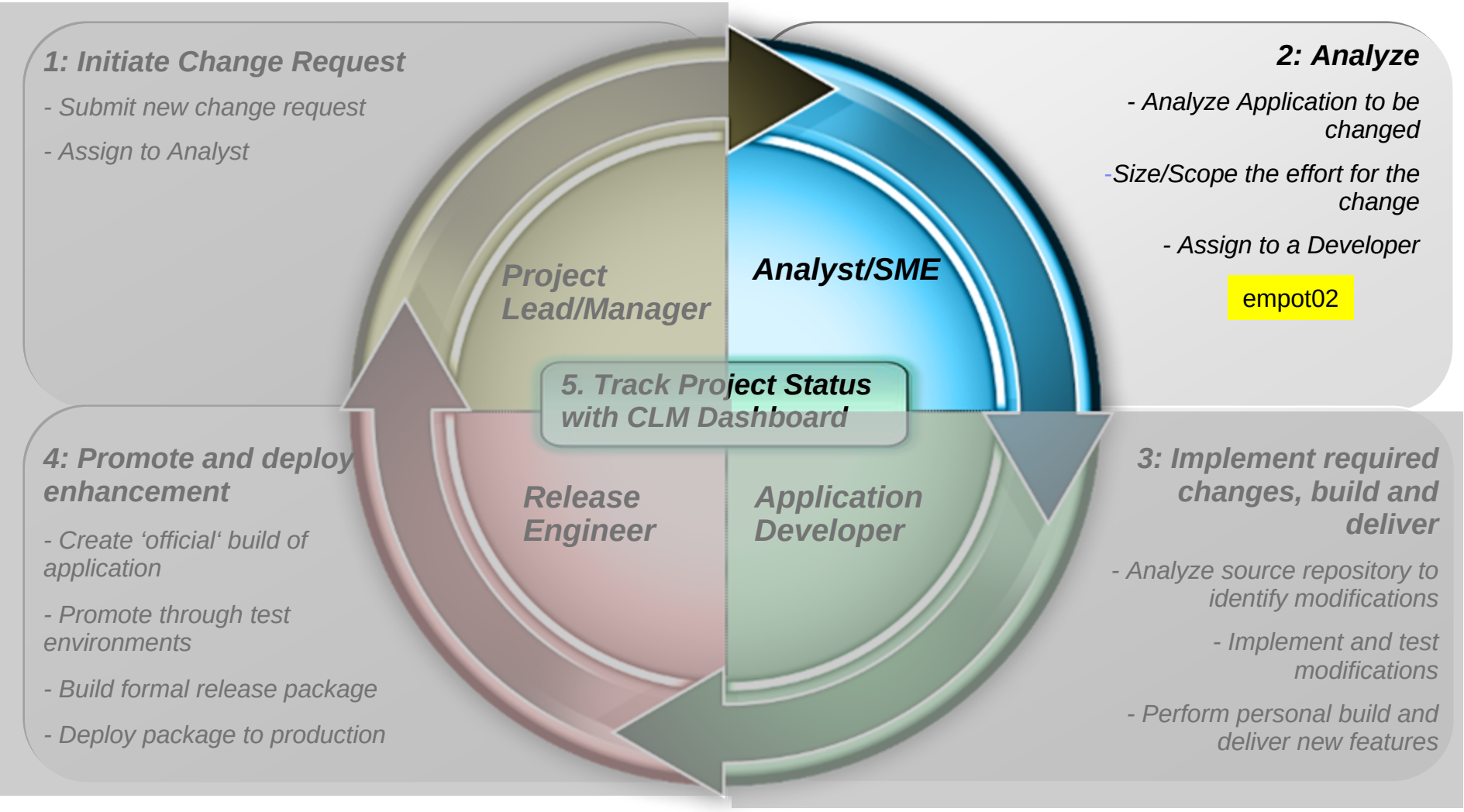
During the analysis, they noticed that many Calculate Mortgage requests end without producing any result due to the fact that customers model loans with loan terms that potential mortgage companies do not offer.
This means that when the query is run to look for mortgage companies that can service the modeled loan, none are returned to the customer ***and no error message is returned indicating any issue****.*

As a result, an enhancement request in the form of a work item Story is created by the support team and assigned to the JKE Bank development team.





Part 2: Analysis – **Alex** the Architect/Analyst



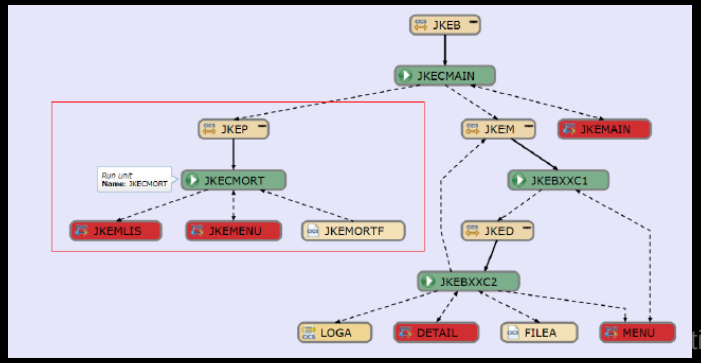
Objective: Change existing Multiplatform application

Alex – Subject Matter Expert (SME) for software project,
Performs application analysis, prioritizes requirements, etc.

1. Alex has received the change requirements (work item) and uses CLM (RTC/RQM) to start the collaboration with others on the team.

2. Alex uses Rational Asset Analyzer (RAA) to understand application framework. Also analyzes the Scope and Risk of Project Change Request.

3. Using Rational Team Concert (RTC) updates the work item for development team to proceed with the transformations.



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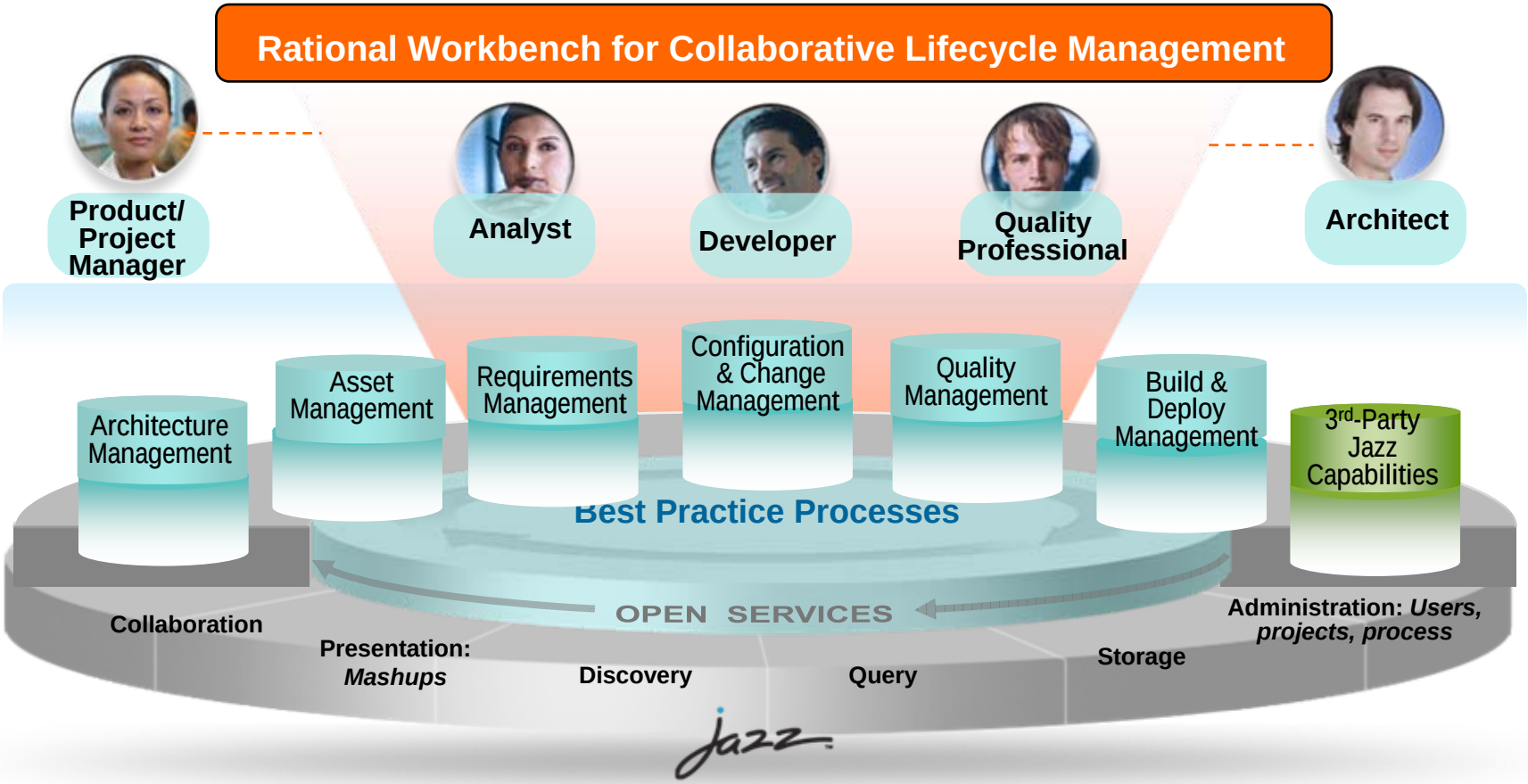
Rational Team Concert: **Workbench for Collaborative Lifecycle Management**

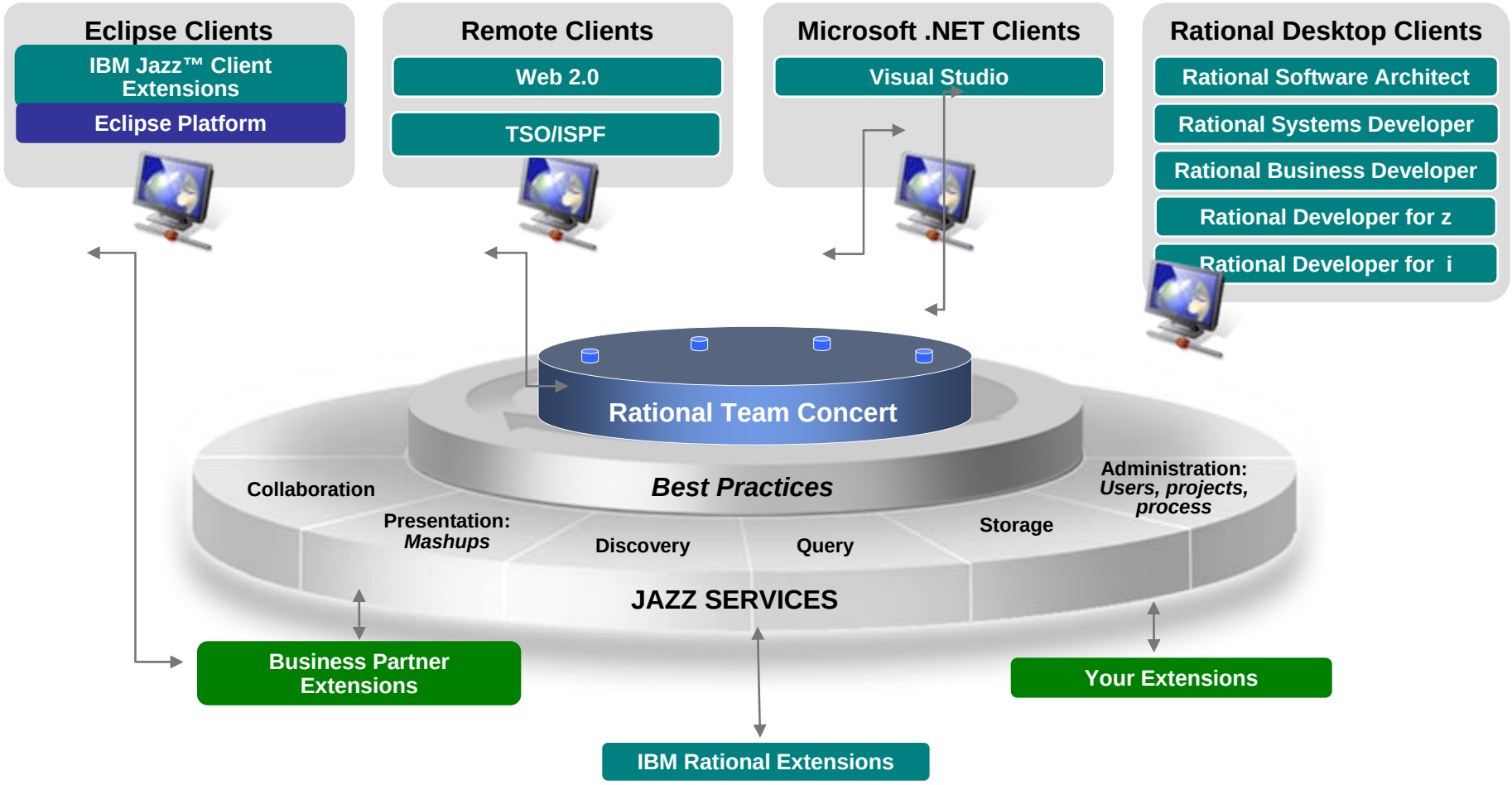
A robust, extensible solution for analysts, developers and quality professionals



Rational Team Concert: Workbench for Collaborative Lifecycle Management

An open, extensible architecture

Supporting a broad range of desktop clients, IDEs and languages



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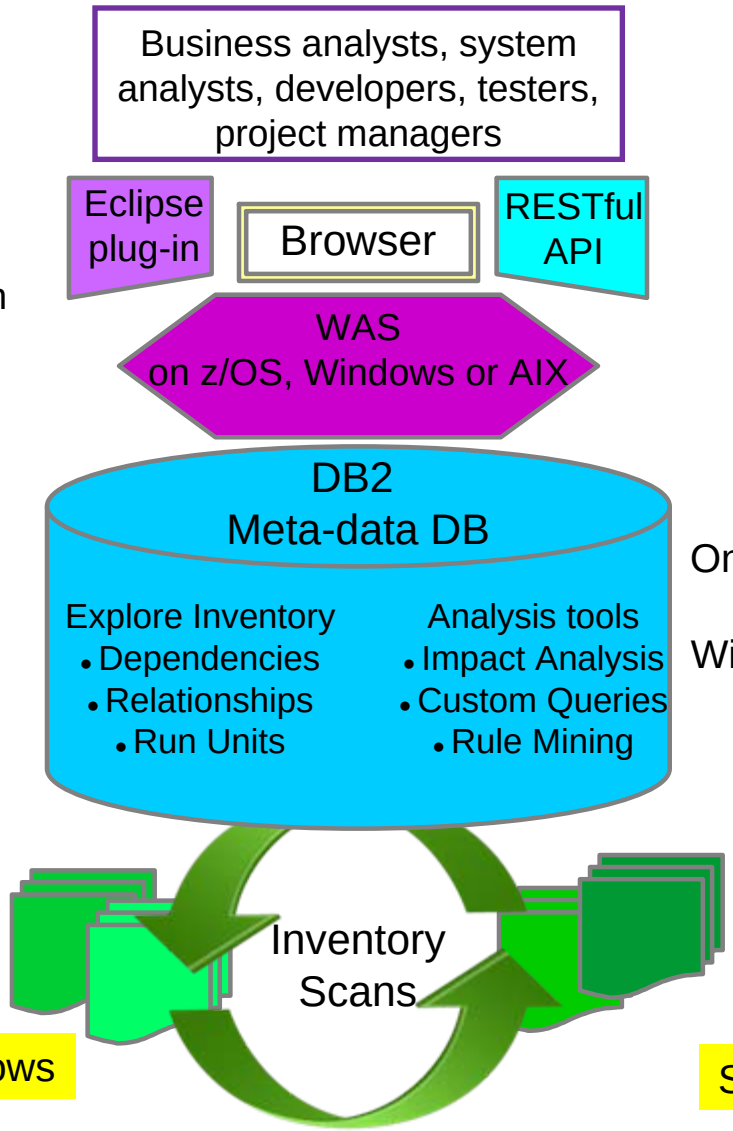
Rational Asset Analyzer: Product Architecture

- Integrated Development Environment
  - Integrating analysis with coding tools
    - Integrated views
    - Web view



On z/OS or Windows

- Companion tool integration
  - Dashboards
  - Portfolio analysis
- Business tools extracts
  - Documents
  - Spreadsheets

COBOL, PL/I applications for CICS, IMS and DB2 plus z/OS Job Control Language (JCL) and High Level Assembler

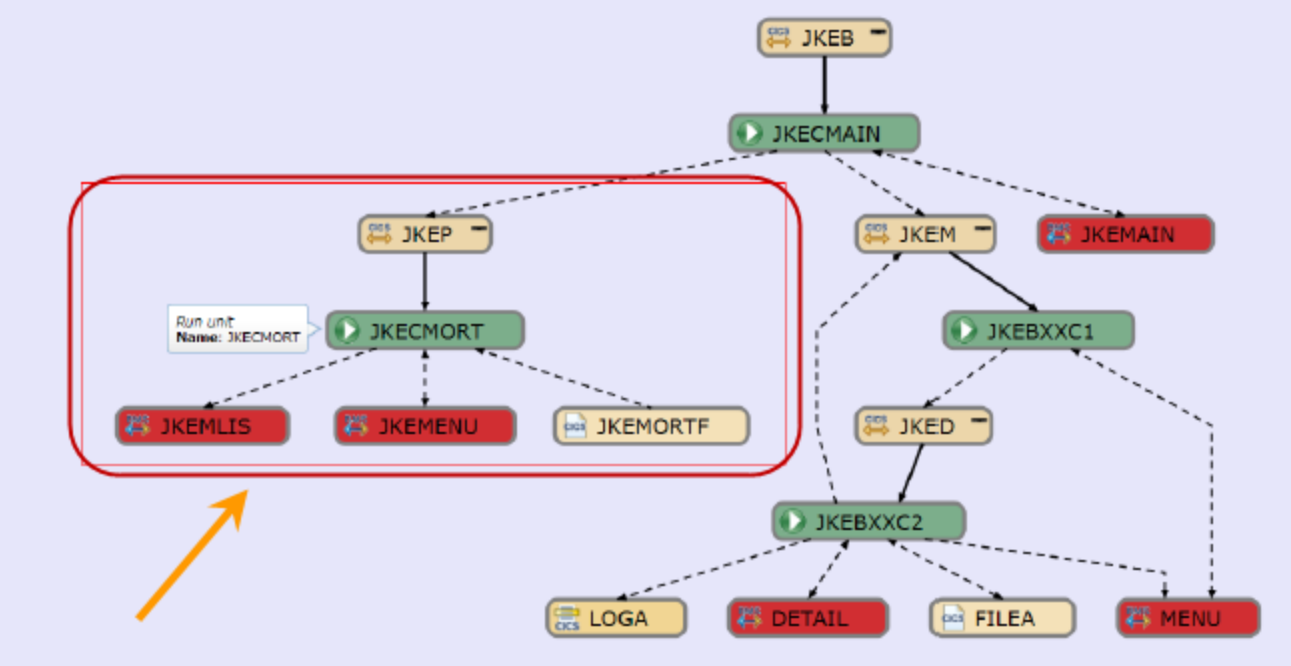
Scannable on z/OS or Windows

Java technology-based applications, HTML, JavaServer Pages (JSP), Enterprise JavaBeans (EJB), enterprise archive (EAR), Web archive (WAR) and Java archive (JAR) files, and C/C++

Scannable on Windows or AIX

Application architecture

BMS maps, CICS transactions, COBOL programs, Datasets



•* Diagram created using Rational asset Analyzer (RAA)

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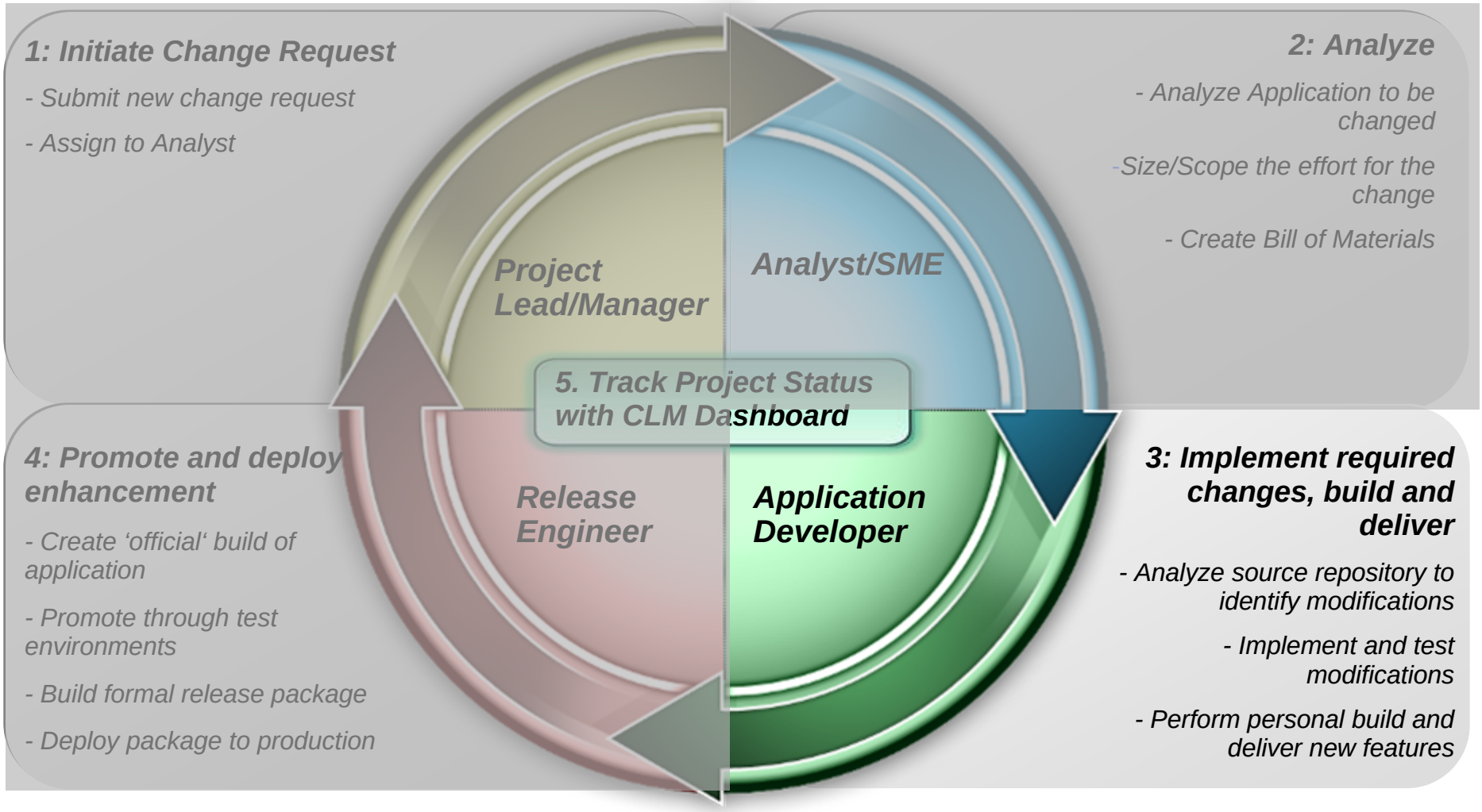
Part 3: Implementation – Deb and Dave the developers

zOS = empot05 web = empot04



Objective: Change existing Multiplatform application

Deb – Mainframe Developer
Performs the COBOL updates

1. Uses Rational Team Concert (RTC) integrated with Rational Developer for System z (RDz) to verify the requirement (work item) and load the code to the RDz Workspace.

2. Uses Rational Asset Analyzer integration with RDz (RAAi) to better understand the program to be modified

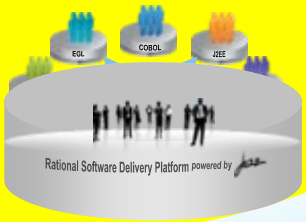
3. Uses RDz to make the changes.

4. Uses RTC to do a personal build to z/OS

5. Developer uses CICS Explorer component of RDz to debug the COBOL/CICS program using the z/OS Debug Tool (running on z/OS – RD&T)

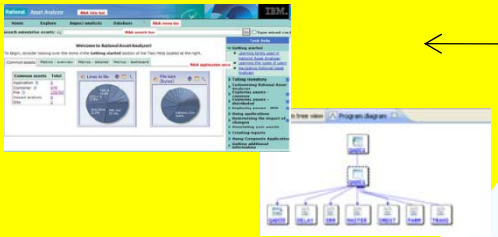
RDz provides a complete set of System z Development and Test capabilities

Integration with Team Concert for Lifecycle and Source Management

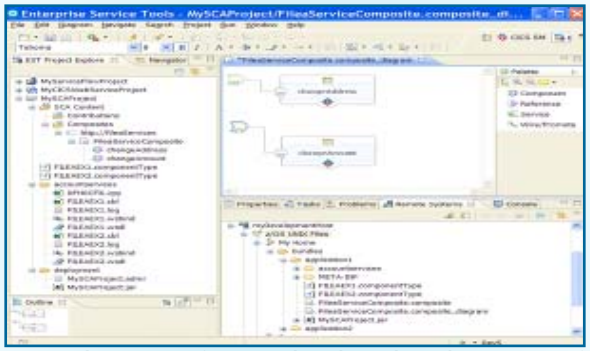


Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS

Integration with Asset Analyzer for Application Understanding and Impact Analysis

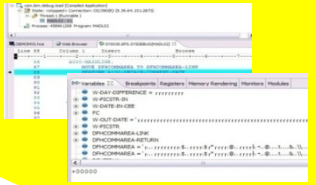


Rational Developer for System z

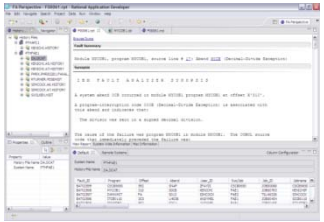


A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, ASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications

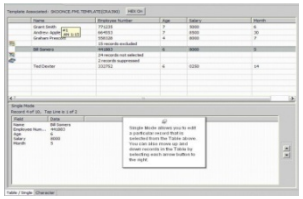
Integration with Debug Tool for Development and Test



Integration with Fault Analyzer for Dump Analysis



Integration with File Manager for file and test data handling



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

Shown on this demo

Objective: Change existing Multiplatform application

Deb – Mainframe Developer
Performs the COBOL updates

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3. Uses RDz to make the changes.
4. Uses RTC to do a personal build to z/OS
5. Developer uses CICS Explorer component of RDz to debug the COBOL/CICS program using the z/OS Debug Tool (running on z/OS – RD&T)

Objective: Change existing Multiplatform application

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Objective: Change existing Multiplatform application

Dave – Web Developer
Performs the Web 2.0 updates (EGL)

1. Uses Rational Team Concert (RTC) integrated with Rational Developer for System z (RDz) to verify the requirement (work item) and load the code to the RDz Workspace.

2. Uses RDz (EGL) to make the Web 2.0 changes.

3. Test the Web 2.0 interface using iPhone emulator

IBM zEnterprise Technology Summit

Multiplatform development

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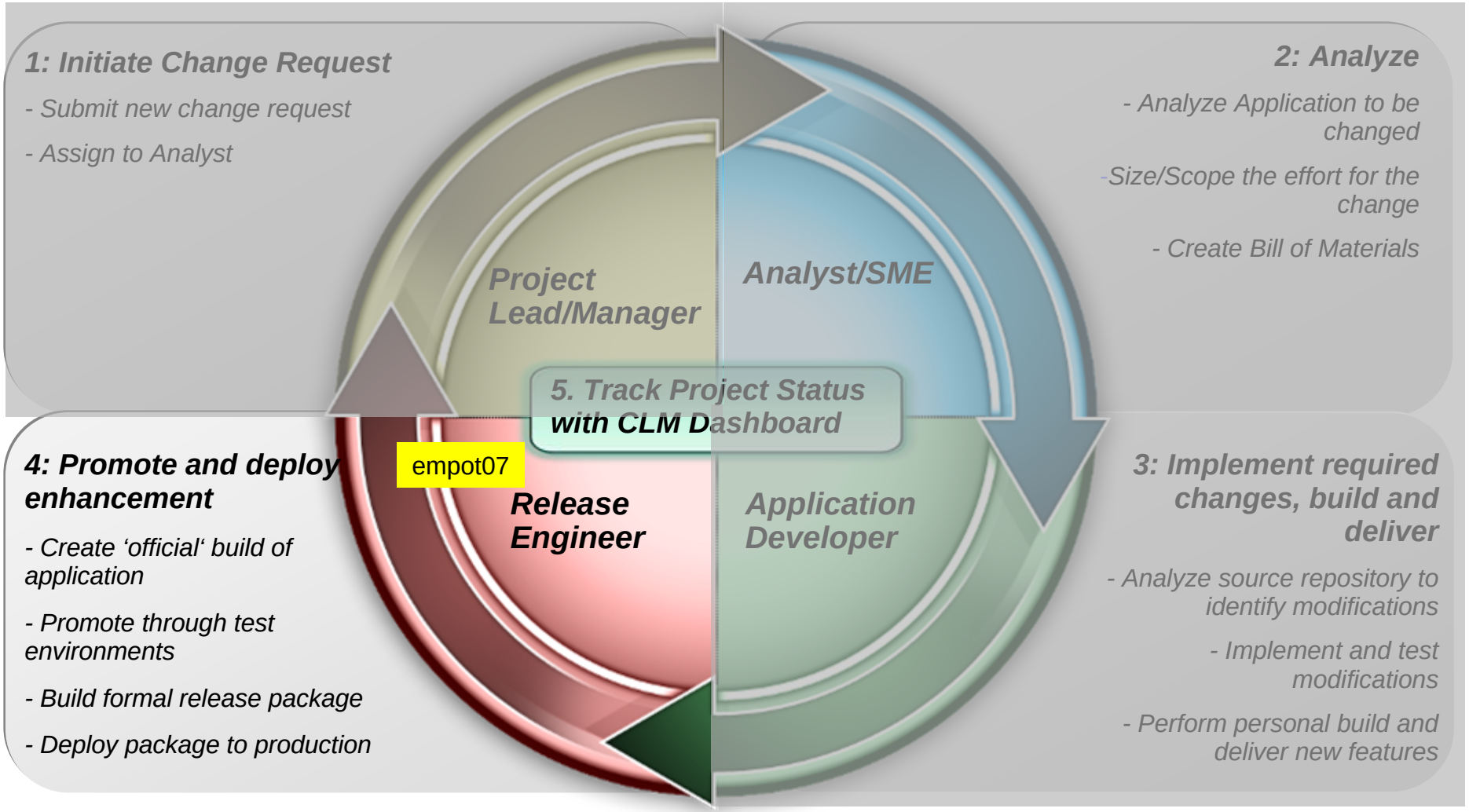
Part III – z/OS Promotion and deployment

Part 4: Promotion – Rebecca the Release Engineer



Objective: Change existing Multiplatform application

Rebecca – Release Engineer
Performs the promotion, package and deploy

1. Uses Rational Team Concert (RTC) integrated with Rational Developer for System z (RDz) to review and approve the changes.
2. Uses RTC to perform a Team Build.
3. Uses RTC to promote from development to test stage.
4. Uses RTC to package and deploy to z/OS.

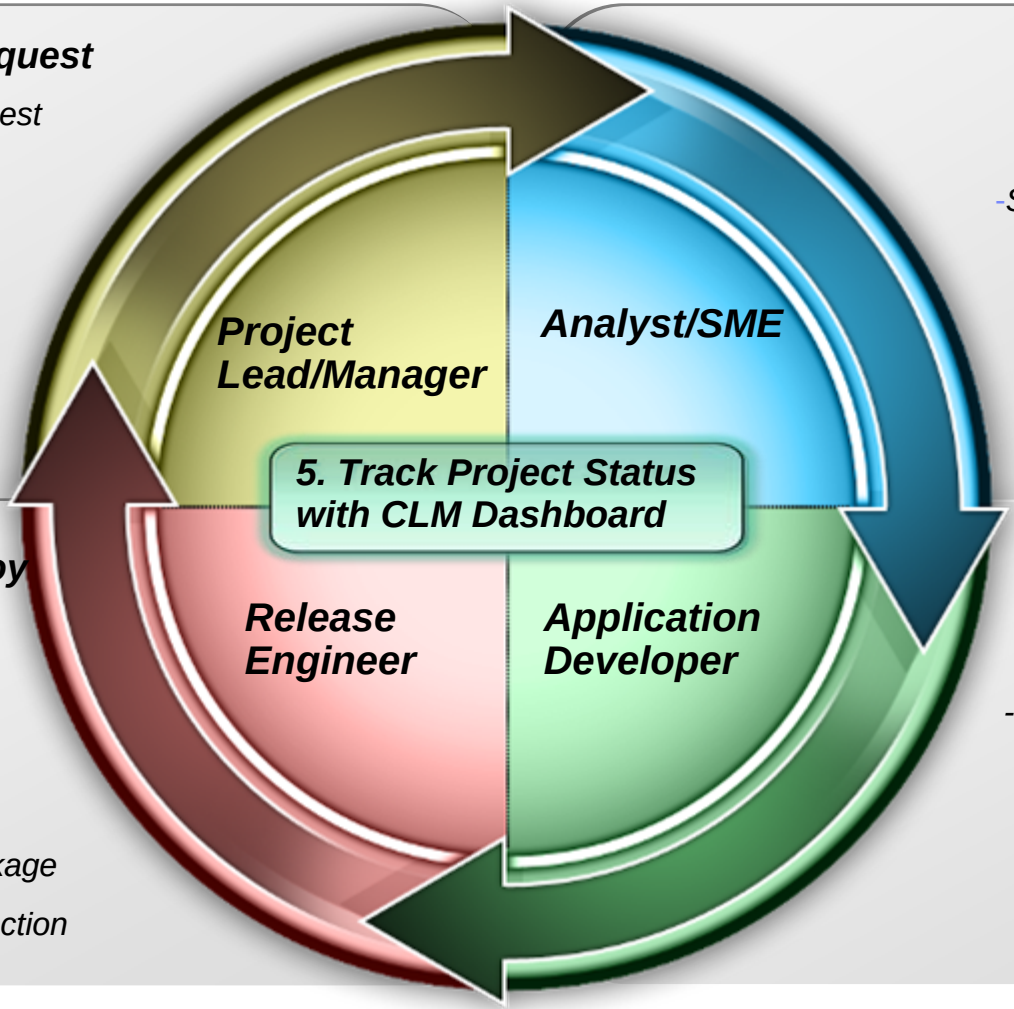
Overview of the Scenario

1: Initiate Change Request

- *Submit new change request*
- *Assign to Analyst*

2: Analyze

- *Analyze Application to be changed*
- *Size/Scope the effort for the change*
- *Create Bill of Materials*



4: Promote and deploy enhancement

- *Create 'official' build of application*
- *Promote through test environments*
- *Build formal release package*
- *Deploy package to production*

3: Implement required changes, build and deliver

- *Analyze source repository to identify modifications*
- *Implement and test modifications*
- *Perform personal build and deliver new features*

- **BACKUP**

Team Members/Roles

- Project Manager: Ursula (empot09)
- Architect/Analyst: Alex (empot02)
- Mainframe Developer: Deb (empot05)
- Web Developer: Dave (empot04)
- Release Engineer: Rebecca (empot07)

Ursula - empot09	Ursula	Author	Rational Requirements Composer – Analyst	Manager of the overall project
		Team Member	Rational Team Concert – Contributor	
		Test Team Contributor	Rational Quality Manager – Connector	
		Non-Administrator	Rational Asset Analyzer	
Alex - empot02	Alex	Author	Rational Requirements Composer – Analyst	Subject Matter Expert (SME) for software project, performs application analysis, prioritizes requirements, etc.
		Team Member	Rational Team Concert – Contributor	
		Test Team Contributor	Rational Quality Manager – Connector	
		Administrator	Rational Asset Analyzer	
Dave - empot04	Dave	Commenter	Rational Requirements Composer - Contributor	Web Developer
		Team Member	Rational Team Concert – Developer for IBM Enterprise Platforms	
		Test Team	Rational Quality Manager –	
Deb - empot05	Deb	Commenter	Rational Requirements Composer - Contributor	Mainframe Developer
		Team Member	Rational Team Concert – Developer for IBM Enterprise Platforms	
		Test Team Contributor	Rational Quality Manager – Connector	
		Client/Non-Administrator	Rational Developer for zEnterprise Rational Asset Analyzer	
Rebecca - empot07	Rebecca	Team Member	Rational Team Concert – Developer for IBM Enterprise Platforms	Initiates all promotion requests
		Test Team Contributor	Rational Quality Manager – Connector	