



Demo: Automatic deployment to z/OS and other platforms using UrbanCode

Regi Barosa
Executive IT Specialist
rbarosa@us.ibm.com



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Demo: Automatic deployment to z/OS and other platforms using UrbanCode



Abstract::

IBM UrbanCode Deploy is a tool for automating Multi-Tier application deployments. With Snapshots, it is easy to ensure that components that were tested together are released together.

In this session we will show an example of deploying an application that has a z/OS and a Mobile component.. The z/OS will be running in on a local laptop..

We will demonstrate a composite deploy scenario:

- Under z/OS development environment the developer changes an existing COBOL CICS
- Under Windows another developer changes an existing Mobile application (using IBM Worklight).
- Using UrbanCode the composite application will be deployed to z/OS and Windows platforms

Rational Team Concert (RTC), built on the jazz platform, is used to demonstrate the Build and integration with UrbanCode deploy

Rational Developer for System z (RDz) will be used for COBOL code updates and integration with RTC.

What will attendees learn from this session?

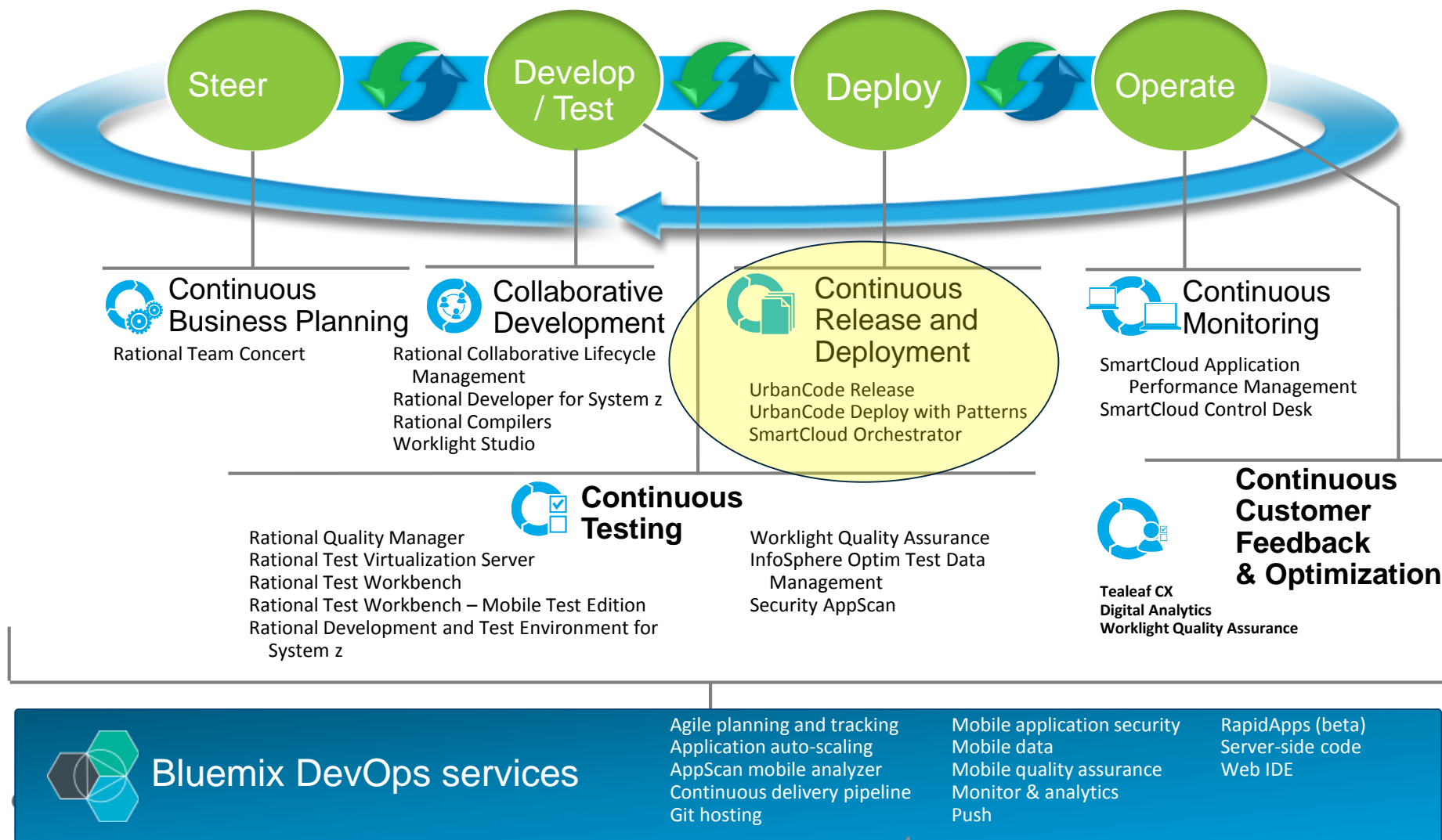
We will demonstrate the value of UrbanCode in Multi-Tier environment, helping the rapid feedback of continuous delivery in agile development while providing the audit trails, versioning and approvals needed in production.

How UrbanCode can integrate with existing Software Configuration Management (SCM) products without disrupting the existing deploy process..

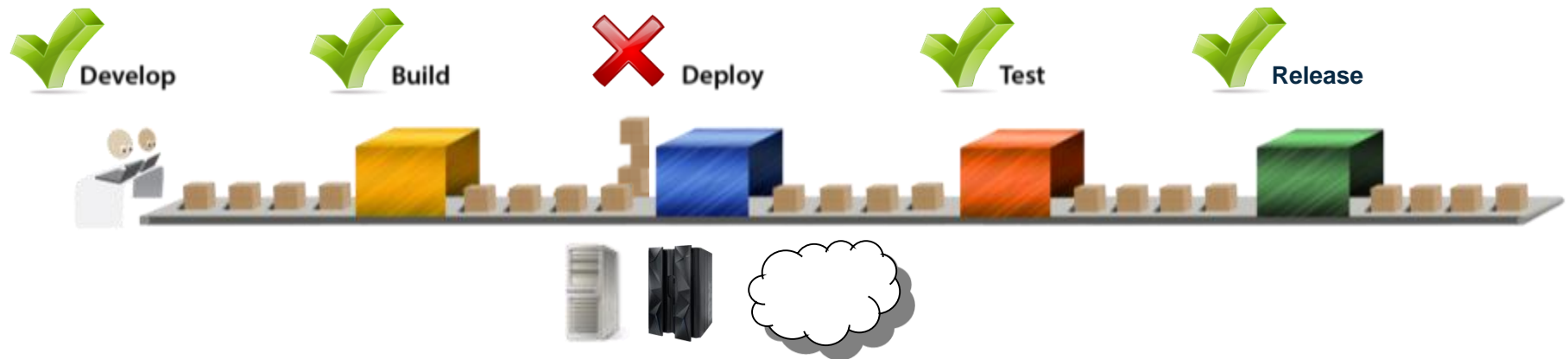
We will show Rational Team Concert (RTC), integrated with UrbanCode as an example.

IBM DevOps – Broad set of DevOps capabilities

Address bottlenecks across the application delivery lifecycle



Deploy is a bottle neck



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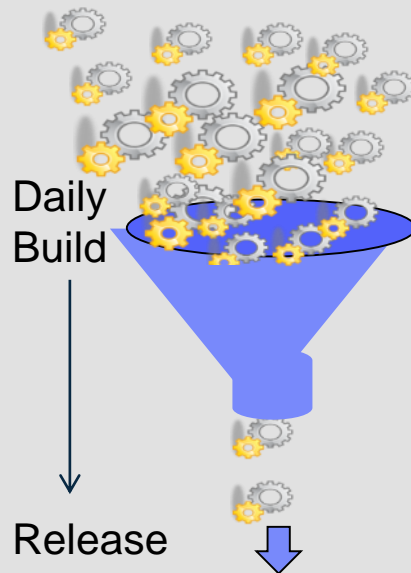
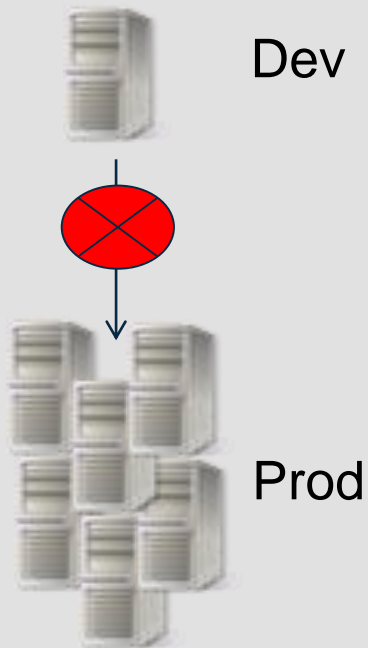
What's going wrong?

Failures due to inconsistent **dev** and **production** environments

Bottlenecks trying to deliver more frequent releases to meet market demands

Complex and manual processes for release lack repeatability and speed

Costly, inefficient releases take days, 100 people and are managed by a spreadsheet



Who did this last time?

Dave...

Dave's not here man...

I'll order breakfast



UrbanCode, an IBM Company



- 11 Years Build, Release and Deployment Experience
- Global Customers
- Enterprise scalability, security, compliance and automation
- Training, consulting and implementation services
- Based in Cleveland, OH

“One key benefit of UrbanCode is how quickly it can be implemented and used for deployments.”

Gartner



7

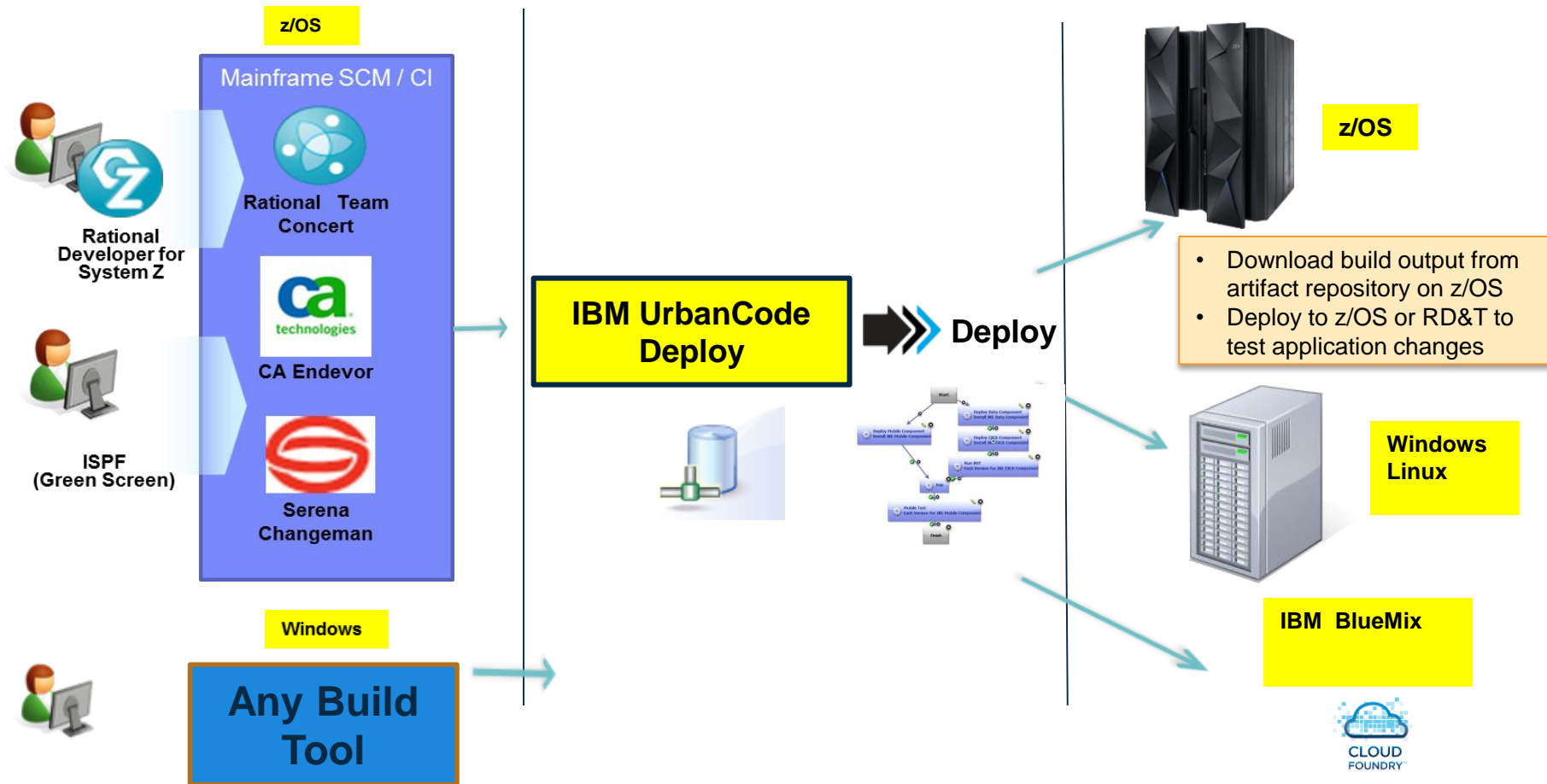
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Continuous Delivery for the Mainframe and Others

Capabilities to speed delivery of interdependent, multi-platform applications



- Provides a **unified solution** for continuous delivery of heterogeneous enterprise applications
- **Accelerate delivery** and reduces cycle time to develop/test multi-tier applications across heterogeneous environments and platforms
- **Reduce costs** and eliminate delays for delivering mainframe applications
- **Minimize risk** and improve productivity across disparate teams with cross-platform release planning

z/OS Deploy Capabilities

SCM agnostic artifact packaging

Deploy Partitioned Data Set (PDS)

Incremental deployment and rollback of versions

Artifact repository in z/OS

zLinux

WAS z/OS

CICS TS

IMS

DB2

MQ (Plan)

z/OS Plug-in steps

Submit JCL job, Submit job based on template, Check job status

Execute REXX

Run TSO/ISPF Command

FTP, Create PDS, Copy PDS, Replace Token MVS ...

z/OS Plug-ins

Step Palette

- Utilities
 - FileUtils
 - zOS Utility
 - Allocate Data Set
 - Allocate Data Set From Existing
 - Allocate SMS Managed Data Set
 - Copy Artifacts
 - Copy Data Set
 - Deploy Data Sets
 - FTP Artifacts
 - Remove All Versions
 - Remove Redundant Versions
 - Rollback Data Sets
 - Run TSO or ISPF Command
 - Submit Job**
 - Wait For Job

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Edit Properties

Name * Submit Job

JCL Dataset

JCL File

JCL

Replace Tokens

Wait For Job ☒

Timeout 60

Show Output ALL

Max Lines 1000

Max Return Code * 4

Working Directory

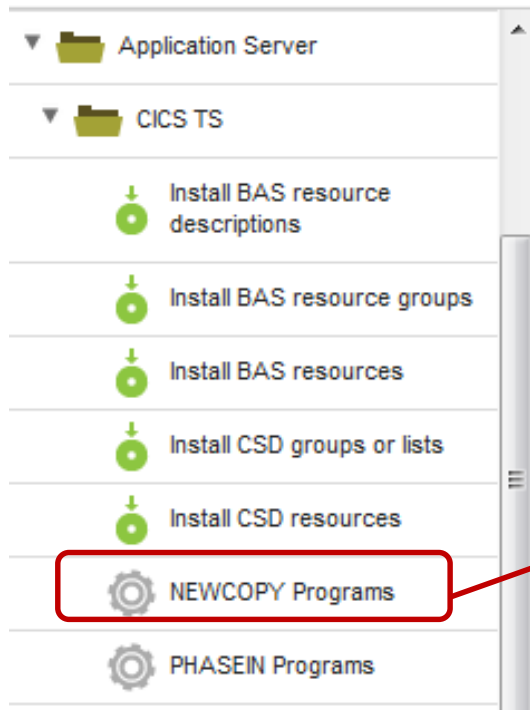
Post Processing Script Step Default

Precondition

Use Impersonation ☐

Show Hidden Properties ☐

CICS Plug-in



Edit Properties

Name * NEWCOPY Programs

Program List * \${Generate Program List/text}

Max Retry Times 3

Retry Interval (s) 0

Working Directory

Post Processing Script HIGHLIGHT NEWCOPY

Precondition

Use Impersonation ☐

Show Hidden Properties ☒

Host * \${p:cics.host}

Port * \${p:cics.cmdiport}

CICSplex \${p?:cics.cicsplex}

Scope \${p?:cics.scope}

Username \${p?:cics.username}

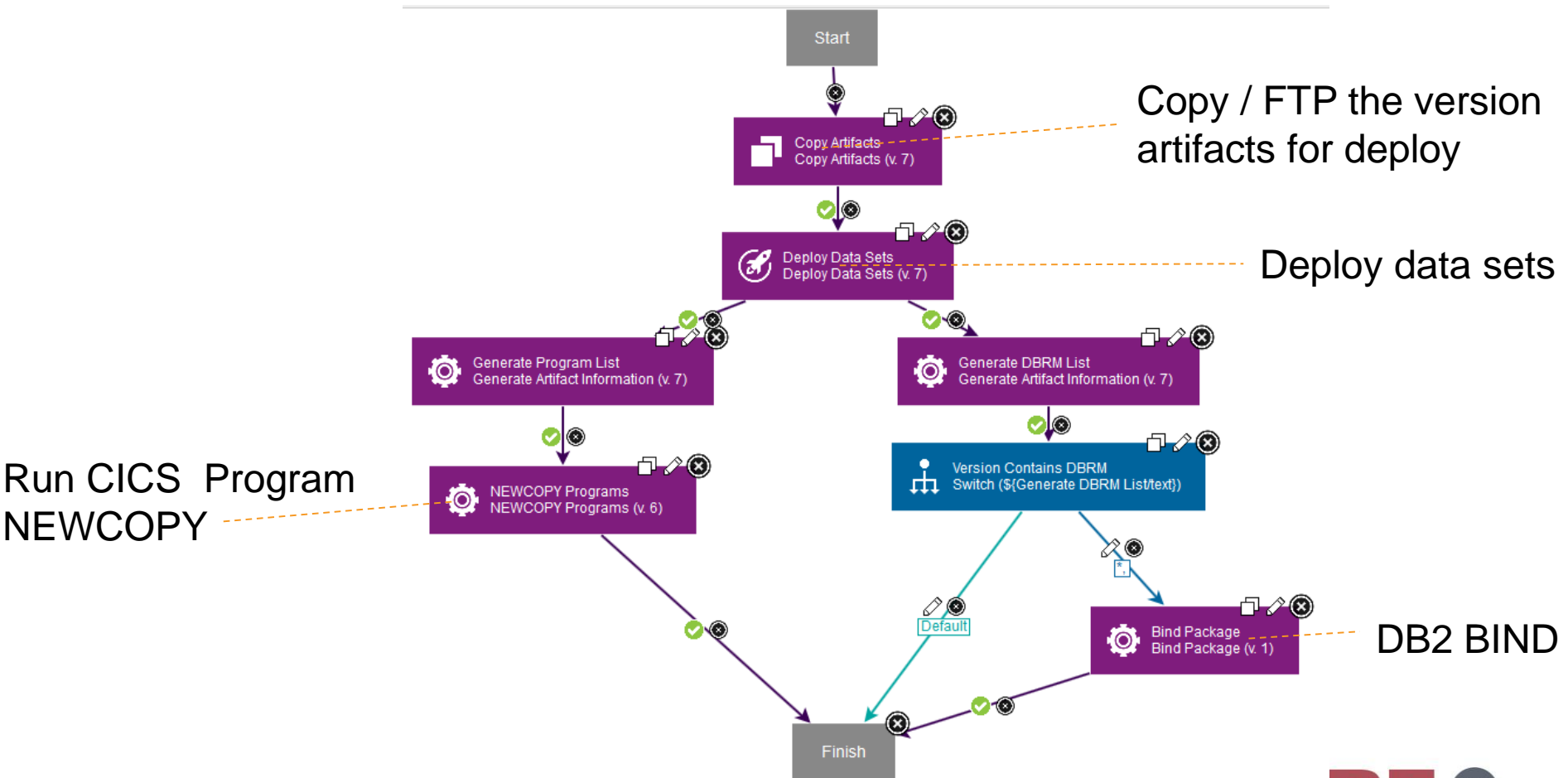
Password

Save

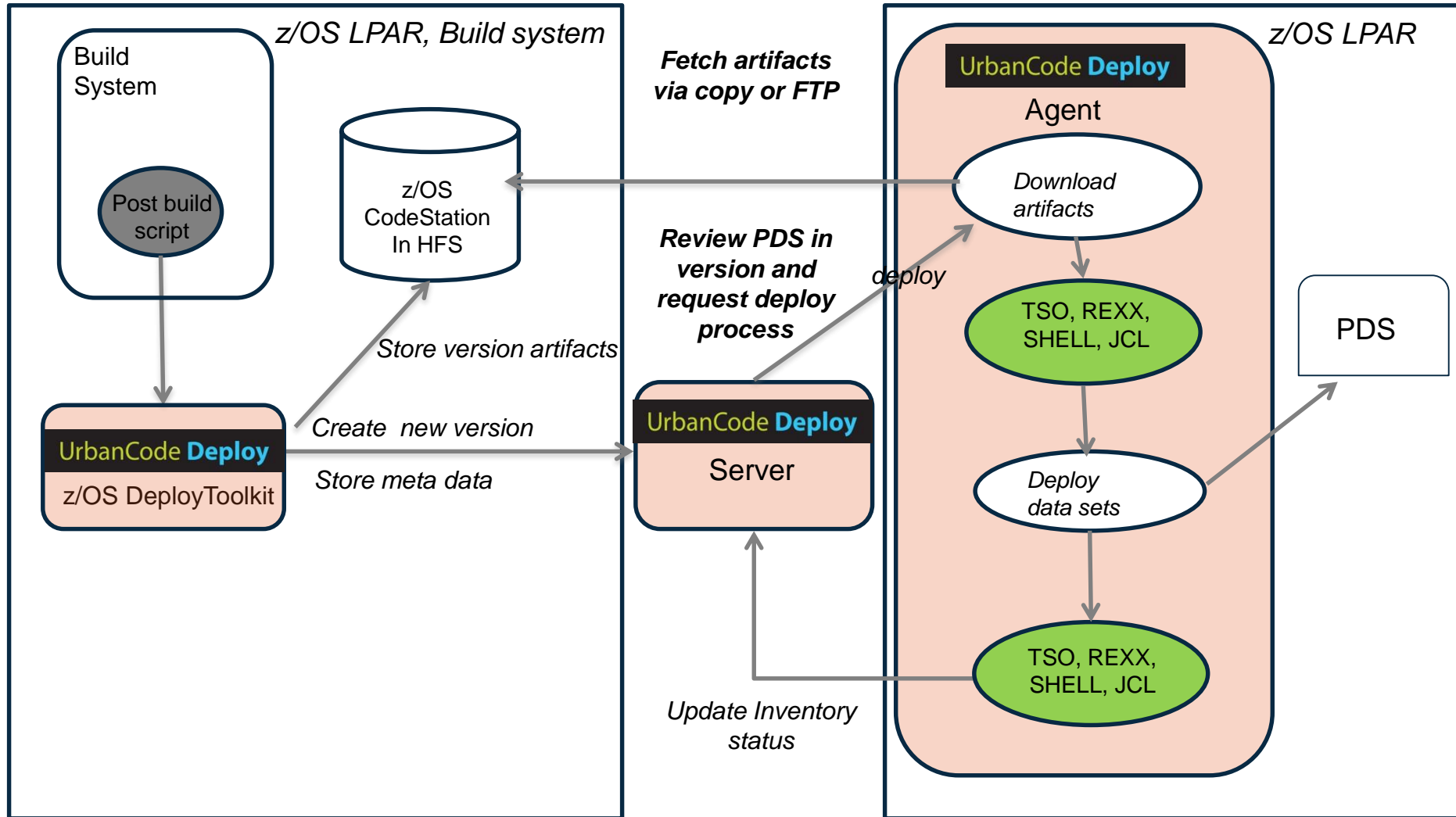
Cancel

z/OS Plug-ins

A sample CICS/DB2 process



High Level Overview of Deployment Capabilities





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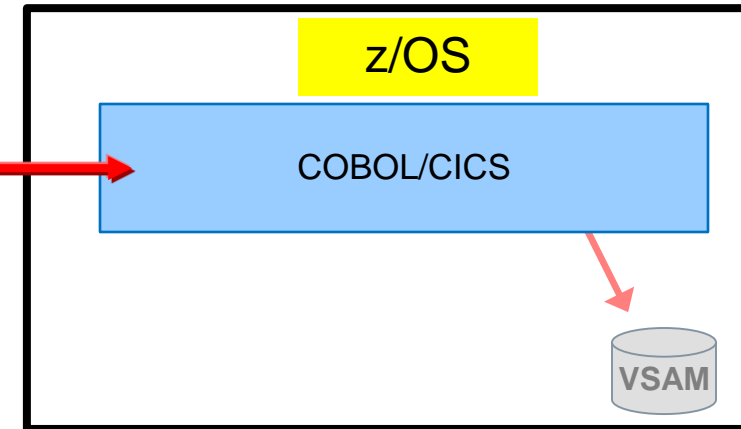
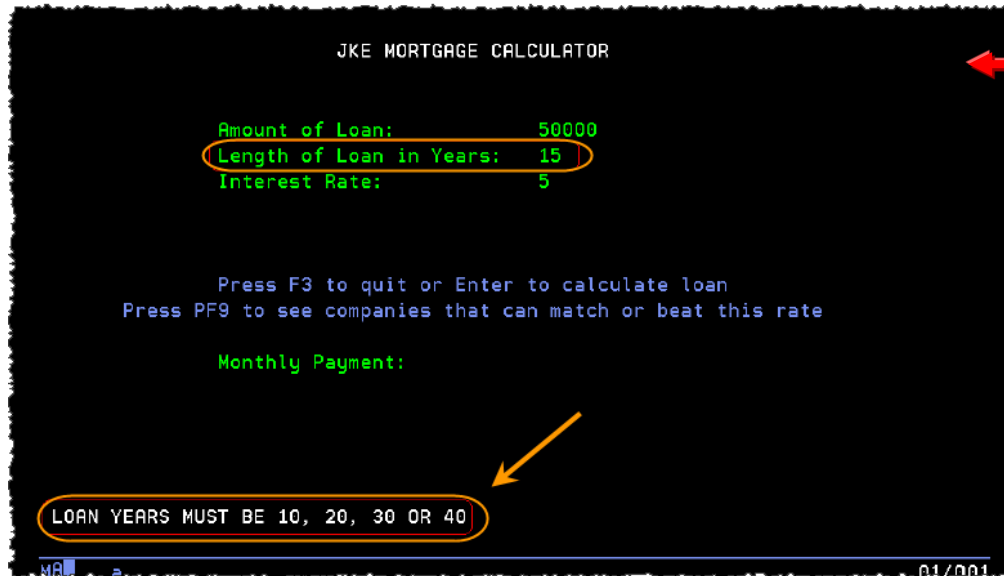
Scenario : Application change is required

z/OS Application Bug

The Only valid length of loan **must be 10, 20 30 or 40 years.**

Currently the length could be **between 1 and 40 years..**

A message should reflect this new enhancement



•Existing COBOL/CICS/BMS application

Scenario : Application change is required

z/OS COBOL program Bug

The Only valid length of loan **must be 10, 20 30 or 40 years.**

Currently the length could be **between 1 and 40 years..**

Fixes: zOS: A message should reflect this new enhancement

Mobile : A drop down should allow only 10,20,30,40



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

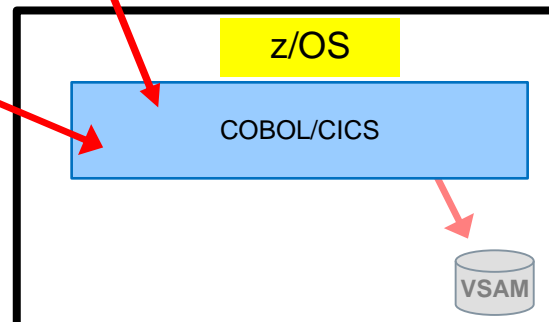
Amount of Loan:      180000
Length of Loan in Years: 30
Interest Rate:       8.2

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
```

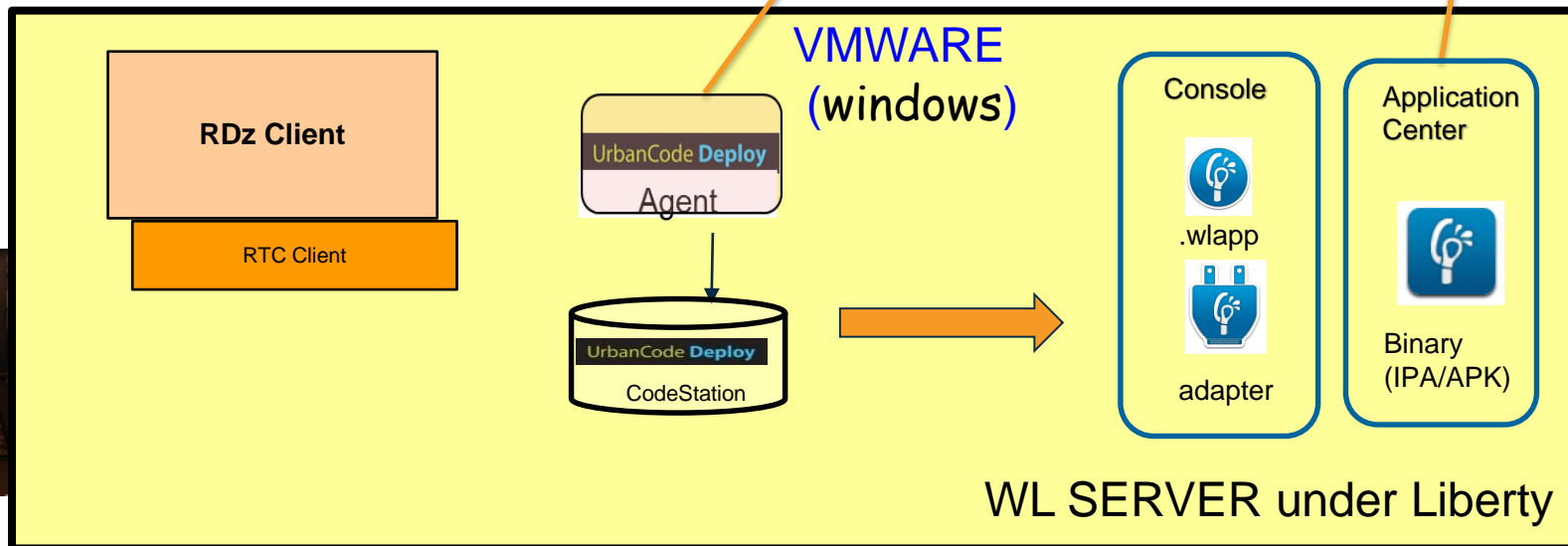
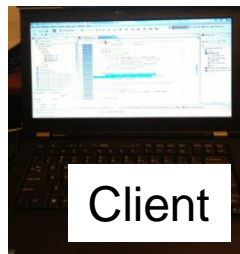
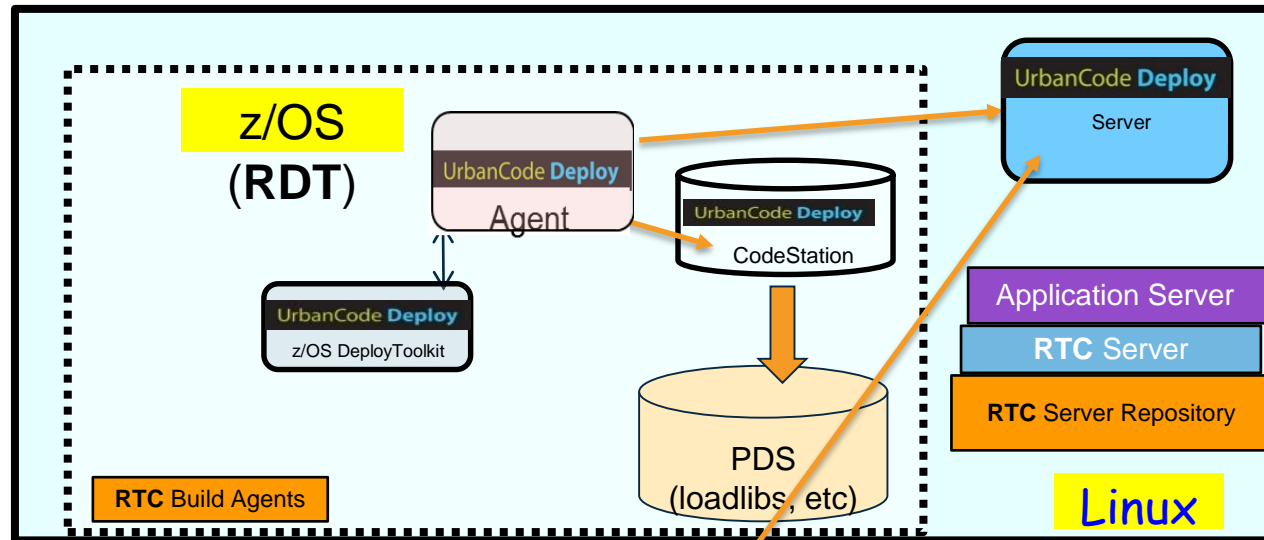
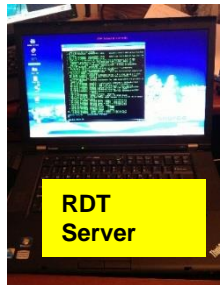
```
Better Mortgage Rates

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

UC Deploy – Demo architecture



Create and Build Application



Develop



SCM



Build



Deploy Application



IBM UrbanCode
Deploy

Use Application



Emulators, Simulators,
or Devices

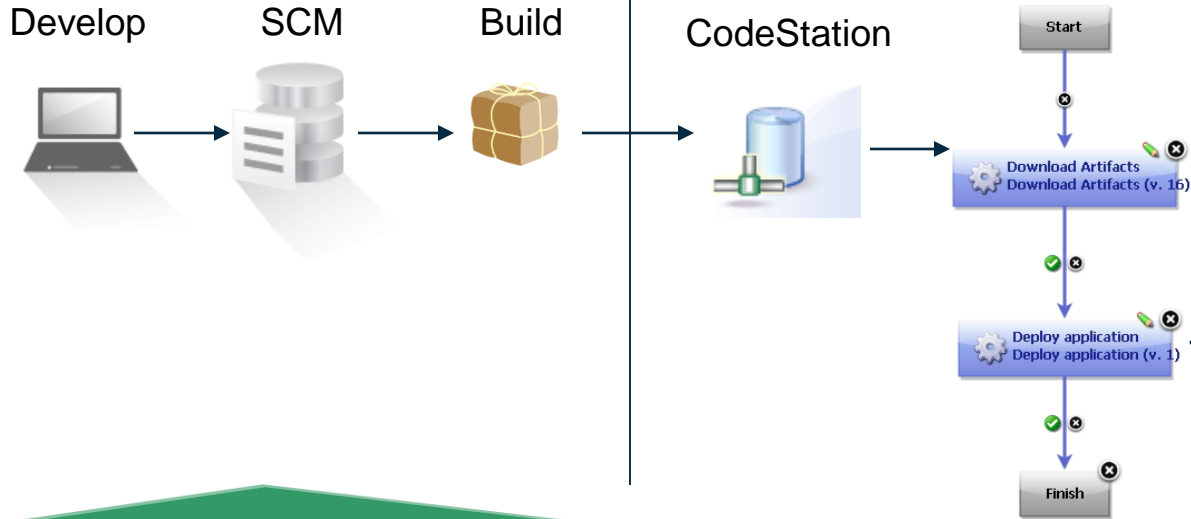


Mobile back-end



Thanks to:
Joel Cayne, MSc
Rational Mobile Tools
IBM Canada Lab

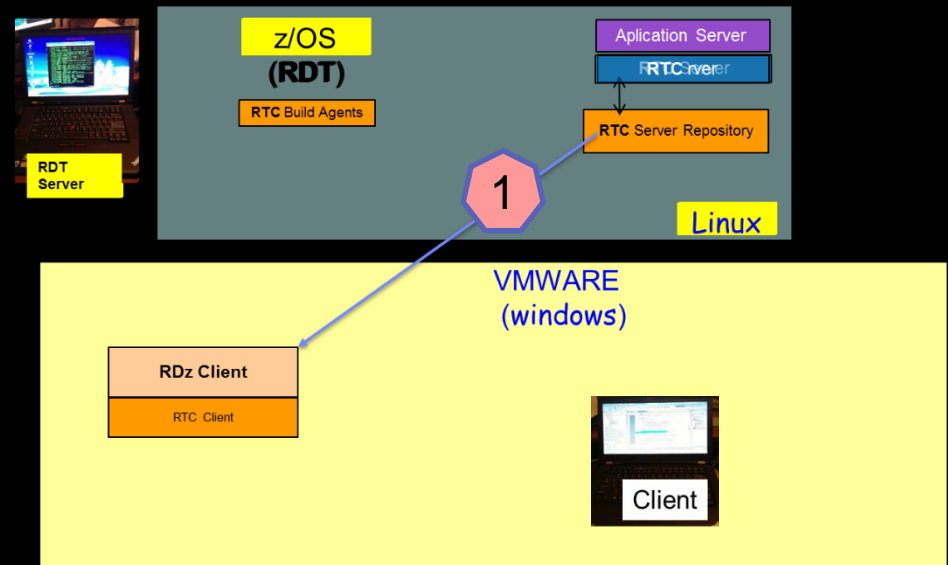
Update Application



z/OS Developer:

Change existing code and deploy DEV environment

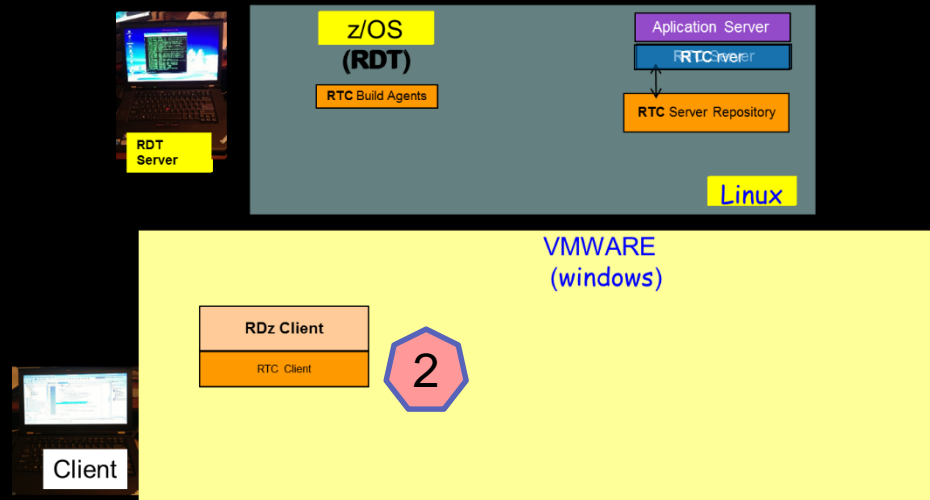
1. Use **RTC** to load the COBOL source code to **RDz**
2. Use **RDz** to make the COBOL changes on **JKEMPMT** and **JKENBRVL**.
3. Use **RTC** to perform a build that creates the z/OS loadlib members and push to **UrbanCode Deploy** on Windows



z/OS Developer:

Change existing code and deploy DEV environment

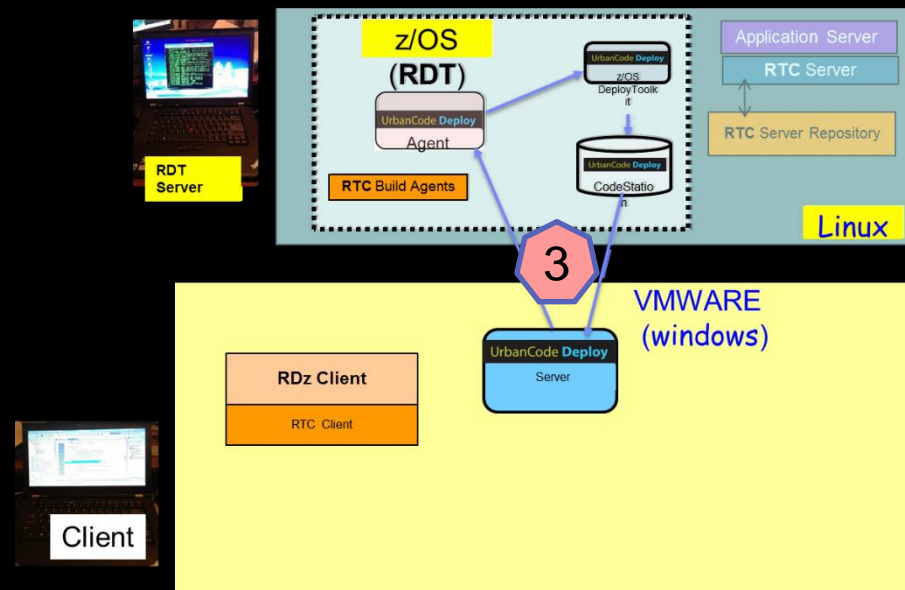
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z/OS Developer:

Change existing code and deploy DEV environment

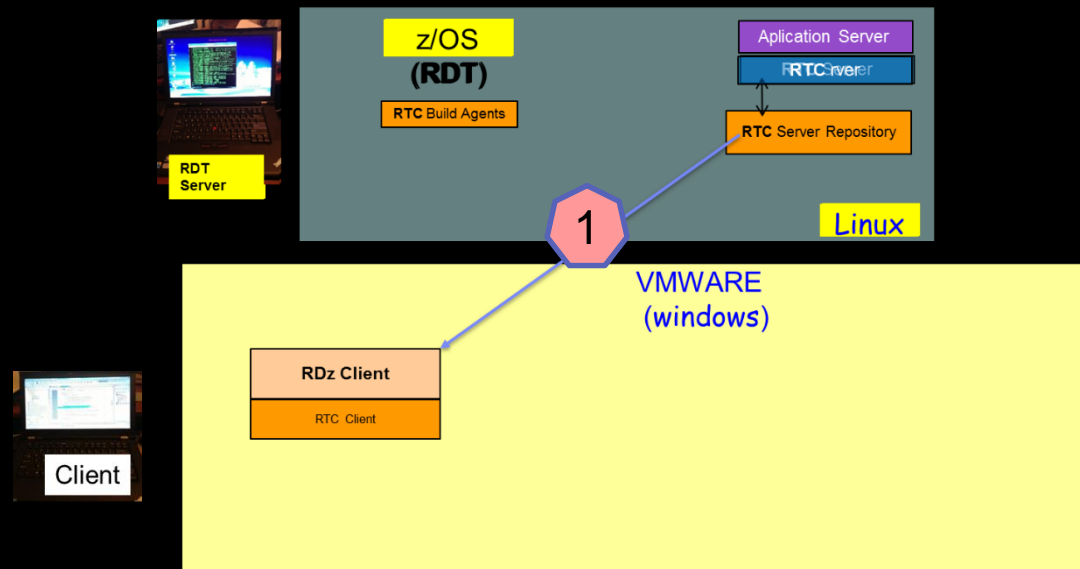
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Worklight Developer:

Change existing code and deploy DEV environment

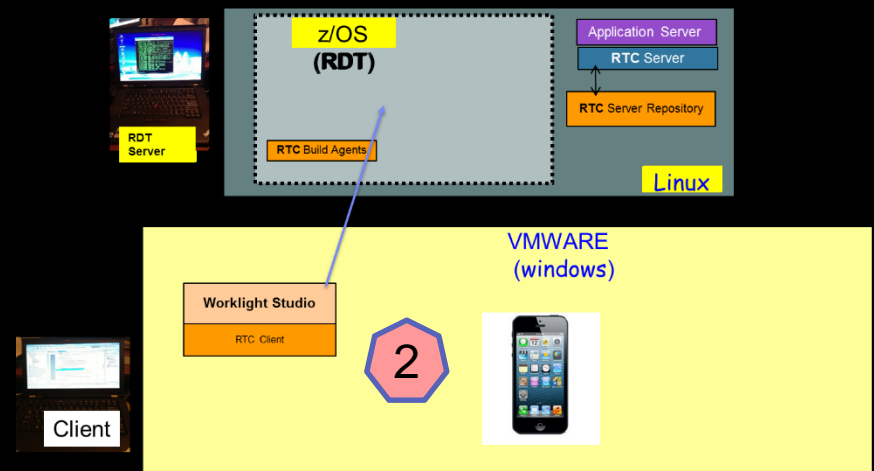
1. Use **RTC** to load the Worklight source code to **Worklight Studio**
2. Use **Worklight Studio** to make the Worklight changes on **HTML** and **Java Script**.
3. Use **RTC** to perform a Windows build that push to **UrbanCode Deploy** on Windows



Worklight Developer:

Change existing code and deploy DEV environment

1. Use **RTC** to load the Worklight source code to **Worklight Studio**
2. Use **Worklight Studio** to make the Worklight changes on **HTML** and **Java Script**.
3. Use **RTC** to perform a Windows build that push to **UrbanCode Deploy** on Windows

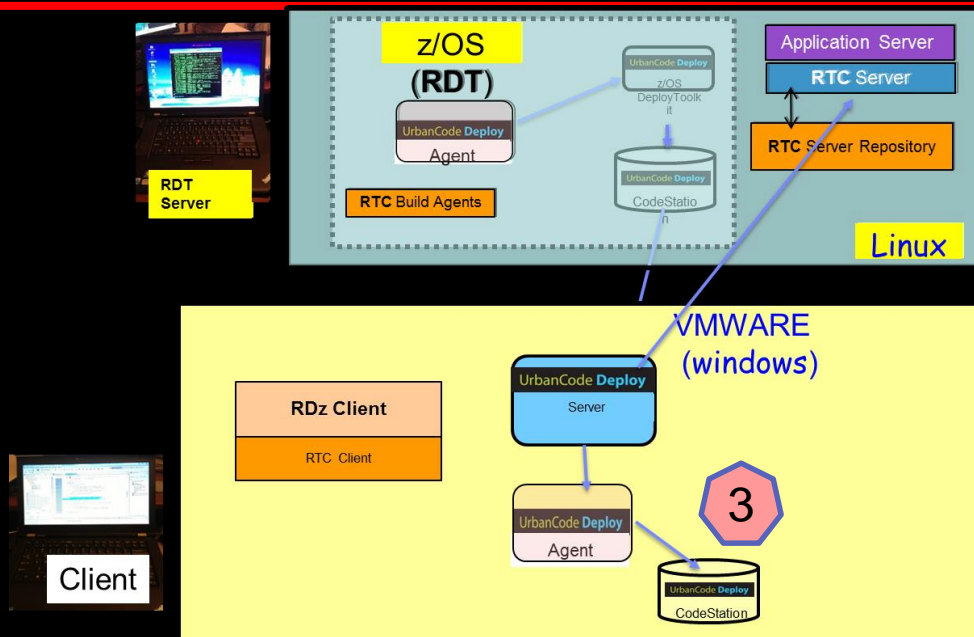


Worklight Developer:

Change existing code and deploy DEV environment

Use **RTC** to load the Worklight source code to **Worklight Studio**

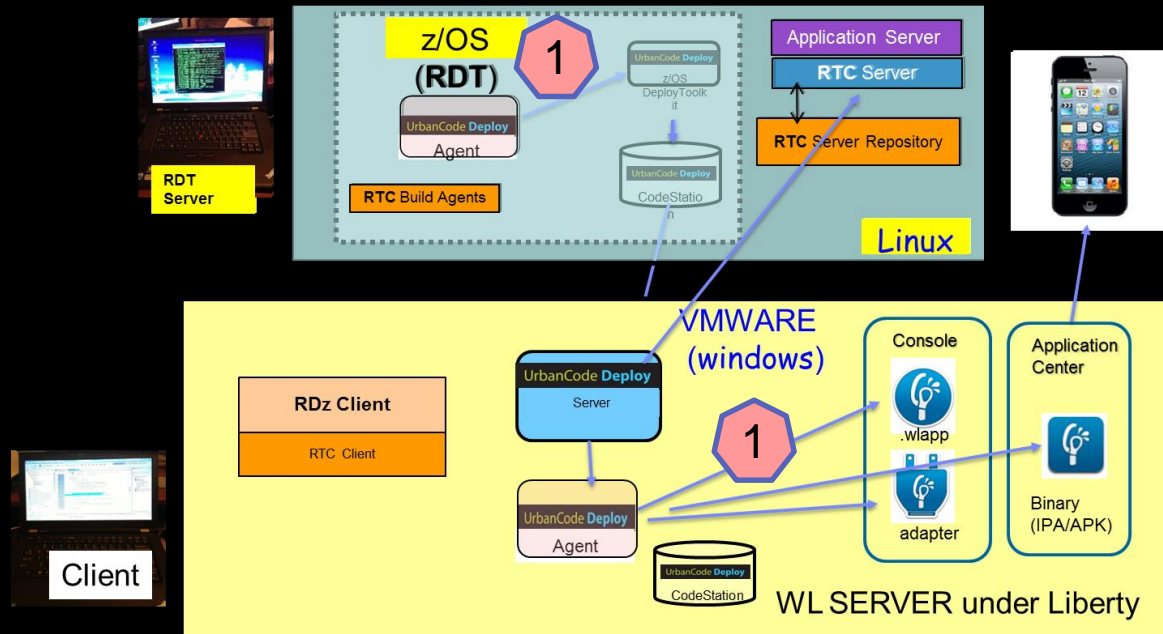
1. Use **Worklight Studio** to make the Worklight changes on **HTML** and **Java Script**
2. Use **RTC** to perform a Windows build that push to **UrbanCode Deploy** on Windows



Release Engineer:

Deploy z/OS (CICS) and Windows (Worklight Server) components to the DEV environment

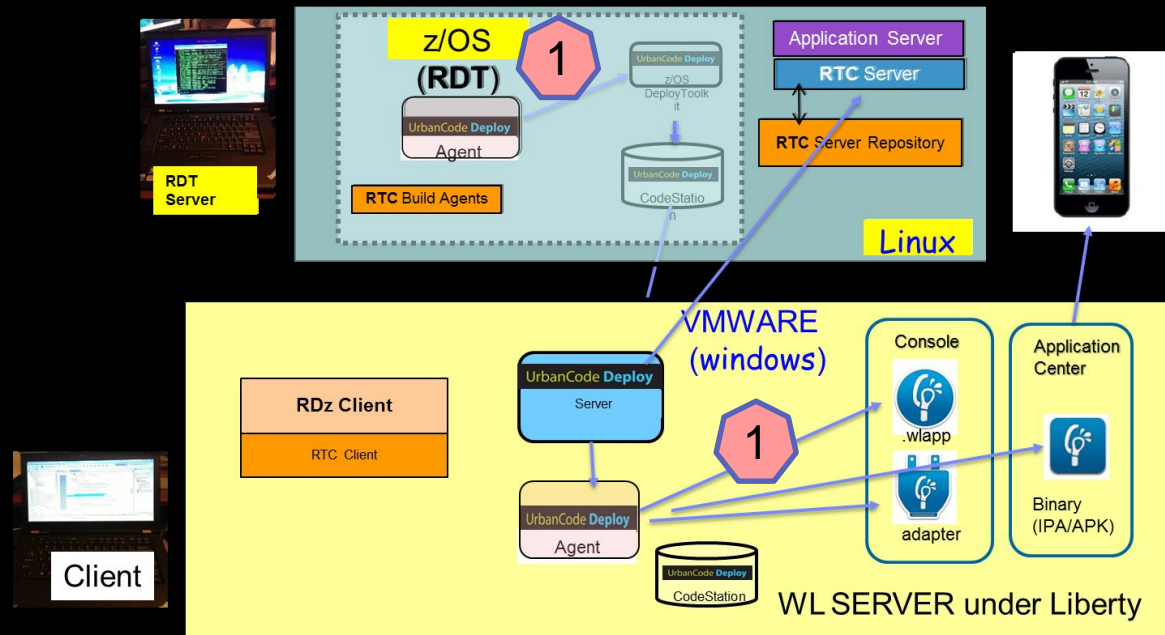
1. Go to **UrbanCode Deploy Server** and run the deploy at DEV level
2. Verify that the change has been made on **CICS** and **Worklight Server**



Release Engineer:

Deploy z/OS (CICS) and Windows (Worklight Server) components to the DEV environment

1. Go to **UrbanCode Deploy Server** and run the deploy at DEV level
2. Verify that the change has been made on **CICS** and **Worklight Server**



IBM UrbanCode Deploy Business Advantages



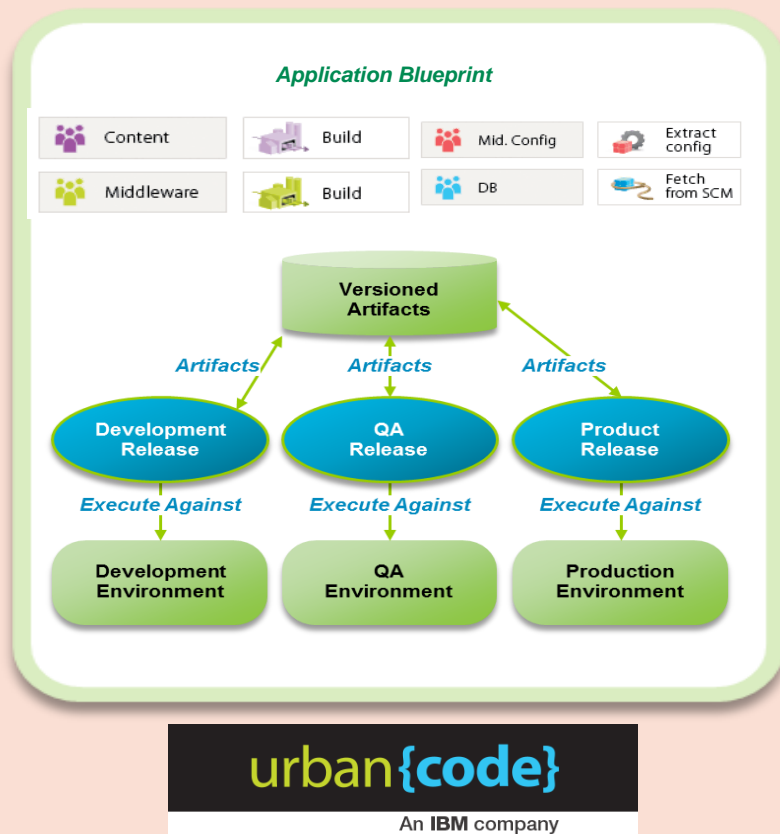
- Automated software release and deployment **reduces errors**
- Push-button deployments **improves productivity** for developer and operations
- Built-in best practices provides for **faster time-to-market**
- Enforced Security and traceability ensures **compliance and auditability**

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Rapid solution delivery and test provisioning

Deliver test environments in minutes



IBM UrbanCode Deploy
IBM UrbanCode Release
IBM SmartCloud Orchestrator



Enabling you to...

- Provision consistent images for test environments, reduce rework, and speed redeploy of application changes
- Quickly deploy multiple test instances in minutes versus hours or days
- Support mainframes using zLinux and z/OS applications
- Orchestrate and automate the deployment and management of applications, middleware configuration, and databases, including Bluemix



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