

CICS Cloud + CICS DevOps = Agility²

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SHARE is an independent volunteer-run information technology association that provides **education, professional networking and industry influence.**



What is DevOps?



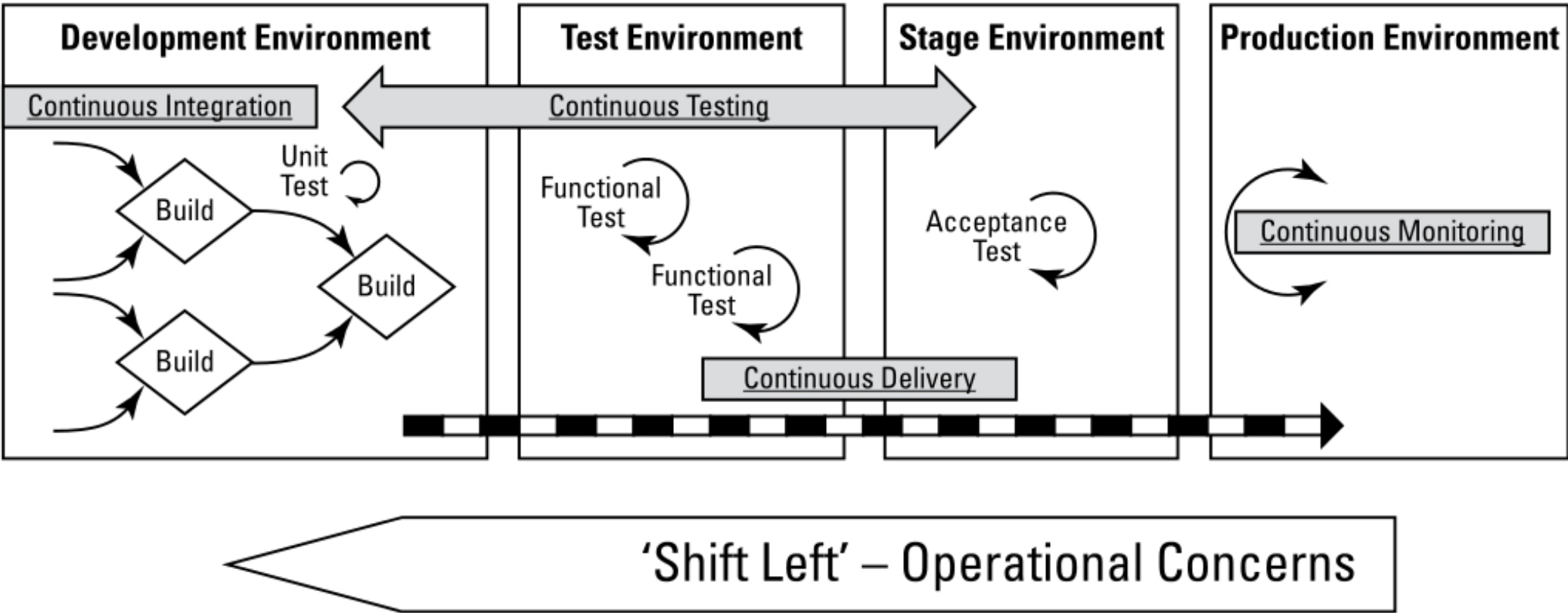
DevOps: care



**Processes:
Remove uncertainty**

Great Artists Ship

**Great
Developers
Deploy**



Processes:
Remove uncertainty

**How to achieve
this in CLCS?**

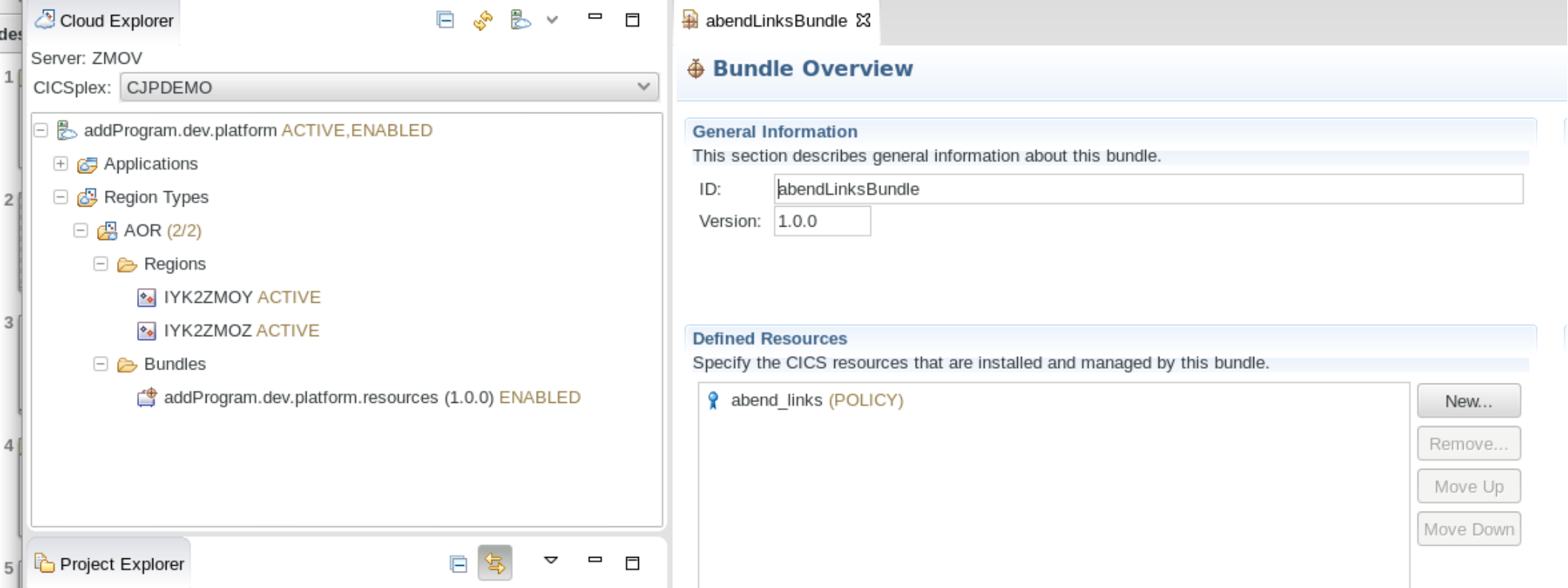
CICS Build Toolkit
DFHDPLOY
UrbanCode Deploy

CI/CS Bundles & Applications

Policy

Web services

App multi-versioning



CICS Explorer

Build bundles

**Deploy CICS bundles
and apps to zFS**

Create definitions

**Install, enable,
make available**

Disable, discard

Automation?

Deploy at 1am

Remove

uncertainty!



Coordination?

CICS TS v5.3

Open Beta

CLCS Build Toolkit

**Write scripts to
build CLCS bundles &
applications for different
environments**

DFHDPLOY

**Batch job to script
deployment of CICS
bundles & applications**

UrbanCode Deploy plug-in

Coordinate the
deployment of ClCS
resources



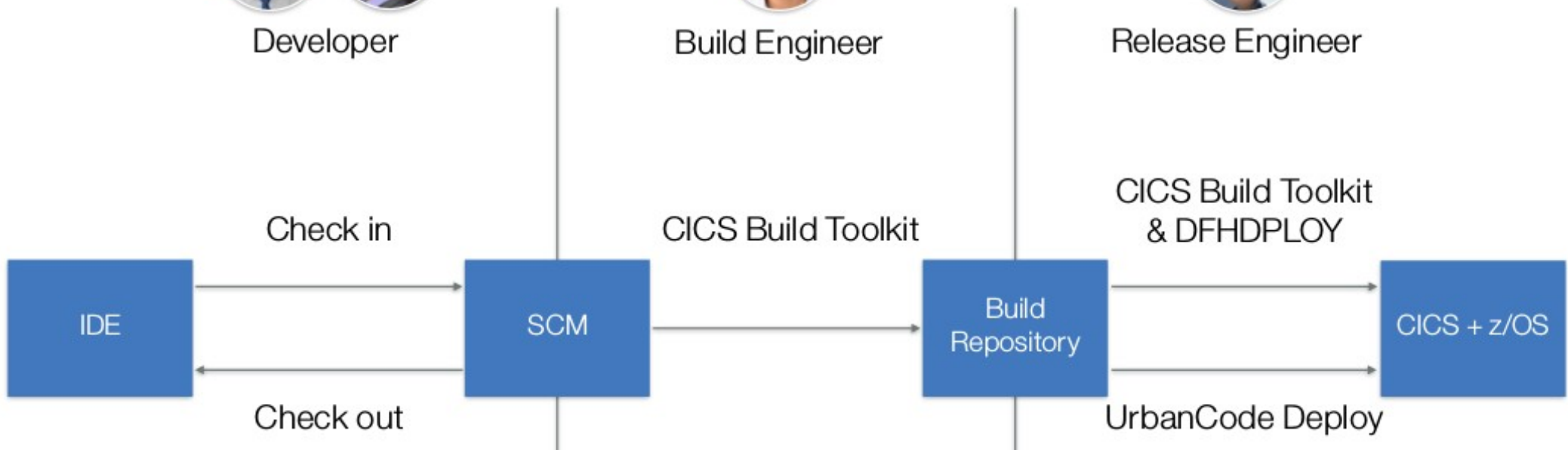
Developer



Build Engineer



Release Engineer



Process

CICS Build Toolkit

Command line
alternative to “Export_”

Install with

```
jar -xf cicsbt_v5.3.0.0.zip
```

Requires Java 7+,

z/OS IBM 31,64-bit SDK

Build a CICS bundle

Bundle name, bundle name+version,
several bundles, all bundles

```
cicsbt --input my/source/dir/*  
      --build  
MyBundleProject(1.0.1)  
      --output my/output/dir
```

Build a CICS bundle with OSGi Java project

Can use a CICS version target, or
your own

```
cicsbt --input my/source/dir/*  
      --build OSGiBundleProject  
      --target  
com.ibm.cics.explorer.sdk.runtime51.ta  
rget  
      --output my/output/dir
```

Build a CICS cloud application

Application name, name+version, all apps

```
cicsbt --input my/source/dir/*  
--build MyApplication(1.0.1)  
--output my/output/dir
```

```
-u $BUILDUSER -P $BUILDPASS \  
-d $SANDBOX \  
$COMPONENT || exit $?  
  
scm accept -t "$WORKSPACE" \  
-r $REPOSITORY \  
-u $BUILDUSER -P $BUILDPASS \  
-d $SANDBOX  
  
#####  
echo "Building com.ibm.cics.server.examples.bundle and referenced Java projects"  
cicsbt build --source $SANDBOX/* \  
--bundle com.ibm.cics.server.examples.bundle \  
--output $OUTPUT \  
--target com.ibm.cics.explorer.sdk.runtime52.target  
  
if [[ $? -gt 6 ]] ; then  
    exit $?  
fi
```

**Run from a continuous
build server, such as
Jenkins or RTC**

DFHDPLOY

Batch job:

**Automate deployment of
bundles and apps**

Synchronous APIs

Don't write polling code

>>-SET CICSplex(data-value)-----+-----+-----X
'-CMAS(data-value)-'

>>-DEPLOY BUNDLE(data-value)--BUNDLEDIR(data-value)->

>--SCOPE(data-value)--+-STATE(DISABLED)--+->
+-STATE(ENABLED)---+
'-STATE(AVAILABLE)-'

.-TIMEOUT(300)-----.

>--+-----+>
'-TIMEOUT(data-value)-'

>--+-----+
'-+-CSDGROUP(data-value)-+--+-----+-'
'-RESGROUP(data-value)-' '-DESCRIPTION(text)-'

>>-UNDEPLOY BUNDLE(data-value)--SCOPE(data-value)->

.-TIMEOUT(300)-----.

>--+-STATE(UNAVAILABLE)-+--+-----+-->

+--STATE(DISABLED)-----+ '-TIMEOUT(data-value)-'

'-STATE(DISCARDED)----'

>--+------+-X

+--CSDGROUP(data-value)-+

'-RESGROUP(data-value)-'

>>-SET BUNDLE(data-value)--SCOPE(data-value)->

.-TIMEOUT(300)-----.

>--+STATE(AVAILABLE)---+--+-----+--X

+STATE(UNAVAILABLE)-+ '-TIMEOUT(data-value)-'

+STATE(ENABLED)-----+

+STATE(DISABLED)-----+

'-PHASEIN-----'

>>-DEPLOY APPLICATION(data-value)--APPLDIR(data-value)-

>- -BINDDIR(data-value)--+-----+>
'-DESCRIPTION(text)-'

.-TIMEOUT(300)-----.

>- -+STATE(DISABLED)--+--+-----+>
+-STATE(ENABLED)---+ '-TIMEOUT(data-value)-'
'-STATE(AVAILABLE)-'

>>-UNDEPLOY APPLICATION(data-value)--VERSION(data-value)

>--PLATFORM(data-value)--+-STATE(UNAVAILABLE)-+->
+-STATE(DISABLED)-----+
'-STATE(DISCARDED)----'

.-TIMEOUT(300)-----.

>--+------+-X
'-TIMEOUT(data-value)-'

>>-SET APPLICATION(data-value)--VERSION(data-value)->

>- -PLATFORM(data-value) --+-STATE(AVAILABLE) ---+->
+-STATE(UNAVAILABLE) -+
+-STATE(ENABLED) -----+
' -STATE(DISABLED) ----- '

. -TIMEOUT(300) ----- .
>- -+-----+->
' -TIMEOUT(data-value) - '


```
000001 //DPLYAPP0 JOB CLASS=A,MSGCLASS=A,NOTIFY=&SYSUID
000002 /*JOBPARM ROOM=A413,SYSAFF=MV2C
000003 //*
000004 //DFHDPLOY EXEC PGM=DFHDPLOY
000005 //*
000006 //STEPLIB DD DISP=SHR,DSN=UTL.DFHDPLOY.SDFHLOAD
000007 // DD DISP=SHR,DSN=UTL.DFHDPLOY.SEYUAUTH
000008 // DD DISP=SHR,DSN=ANTZ.CICS.TS.DEV.INTEGRAT.SDFHLOAD
000009 // DD DISP=SHR,DSN=ANTZ.CICS.TS.DEV.INTEGRAT.SEYUAUTH
000010 //*
000011 //SYSTSPRT DD SYSOUT=*
000012 //DPLOYTRC DD SYSOUT=*
000013 //EYUTRCF DD SYSOUT=*
000014 //*
000015 //SYSIN DD *
000016 SET CICSplex(CJPDEMO) CMAS(IYK2ZMOV);
000017 *
000018 DEPLOY APPLICATION(ADDAPP)
000019 APPLDIR(/u/chpool/demo/DevOps/addProgram.dev.platform/applications/addP
000020 rogram.app_1.0.0)
000021 BINDDIR(/u/chpool/demo/DevOps/addProgram.dev.platform/bindings/addProgr
000022 am.app_dev.platform_binding_1.0.0)
000023 STATE(AVAILABLE);
```

Batch job

DEV

QA

STAGING

PRODUCTION

abendLinksBundle | APROUTER | APPLIB

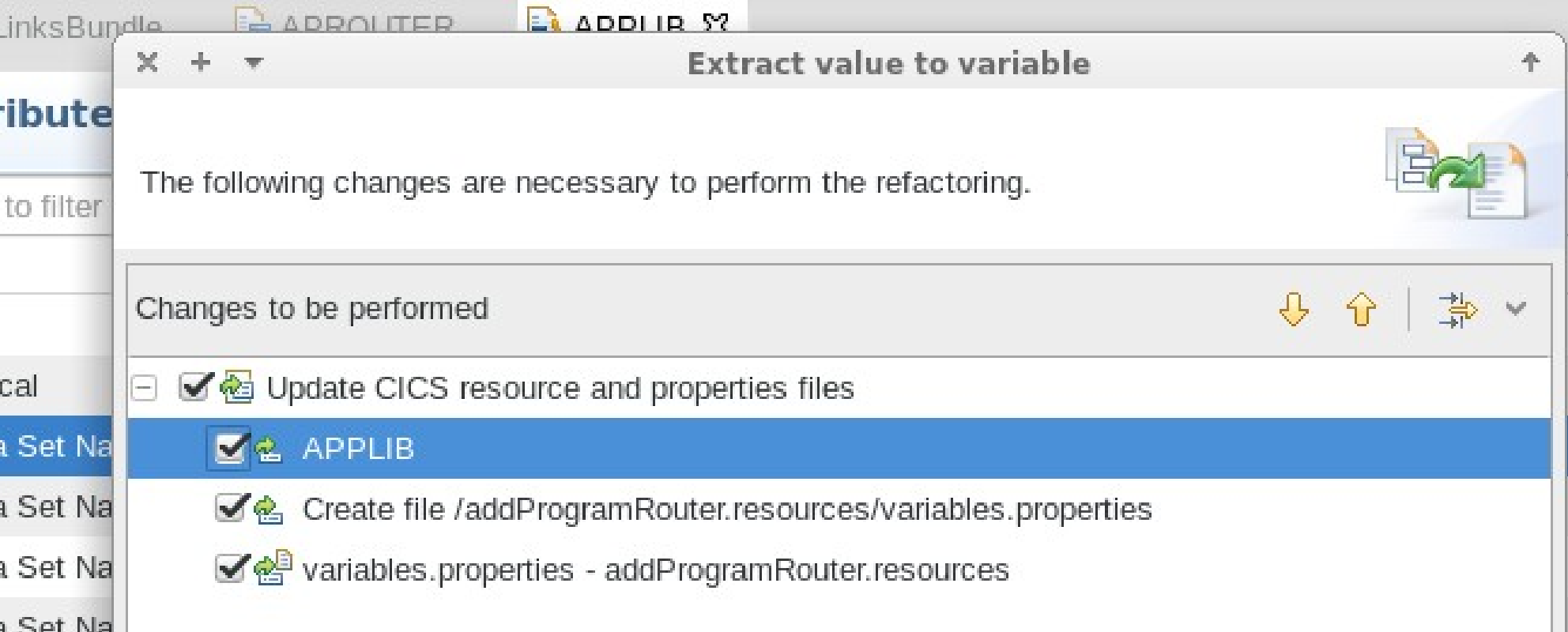
Attributes

type here to filter on Name and CICS Name

Name	CICS Name	Value
Basic		
Critical	CRITICAL	
Data Set Name 01	DSNAME01	CHPOOLE.DEMO.POLICY.ROUTER.V110
Data Set Name 02	DSNAME02	
Data Set Name 03	DSNAME03	
Data Set Name 04	DSNAME04	
Data Set Name 05	DSNAME05	
Data Set Name 06	DSNAME06	
Data Set Name 07	DSNAME07	
Data Set Name 08	DSNAME08	

- Extract value to variable
- Insert variable
- Copy all
- Copy Ctrl+C

$\{$ Variable Substitution $\}$



**Resolve with
a properties file**

variables.properties in:

Bundle

Application binding

Standalone bundle



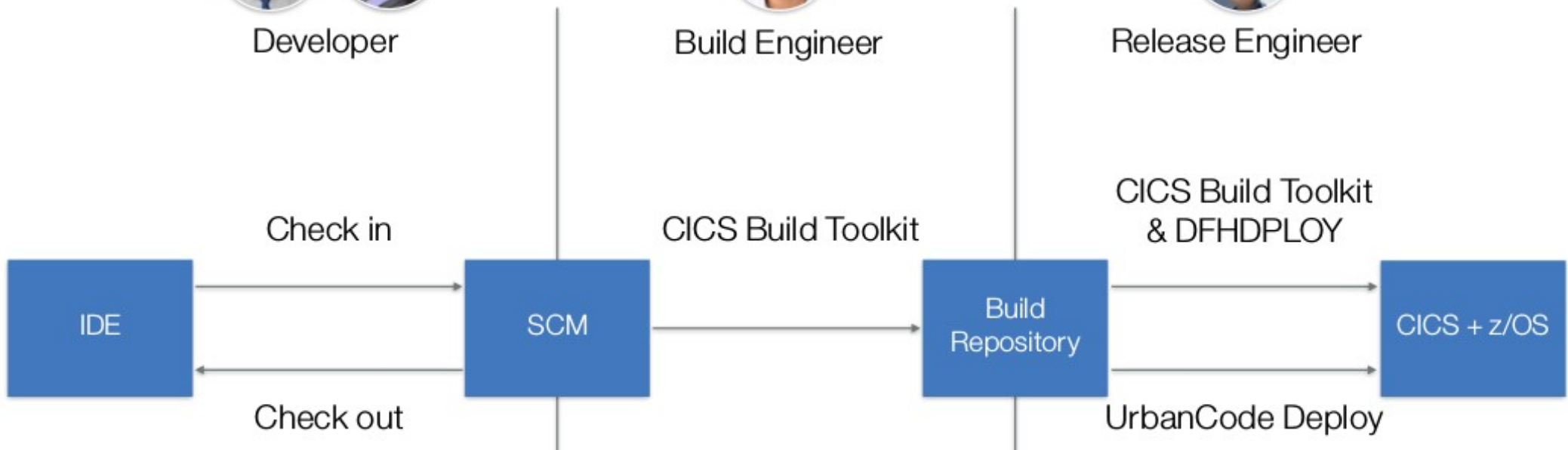
Developer



Build Engineer

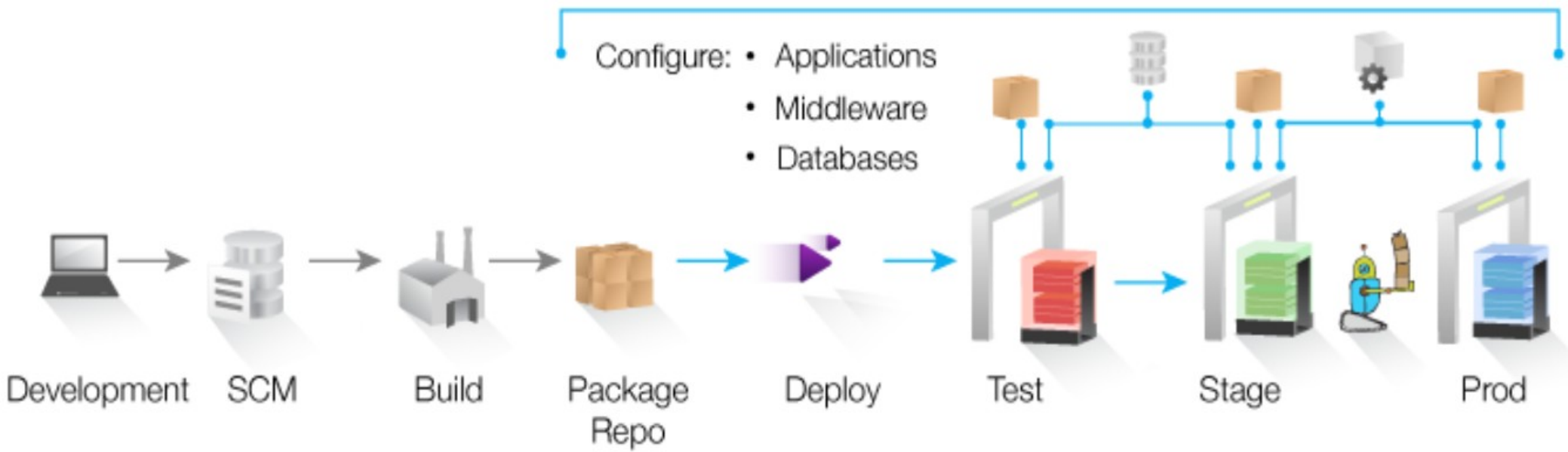


Release Engineer



Process

IBM UrbanCode Deploy



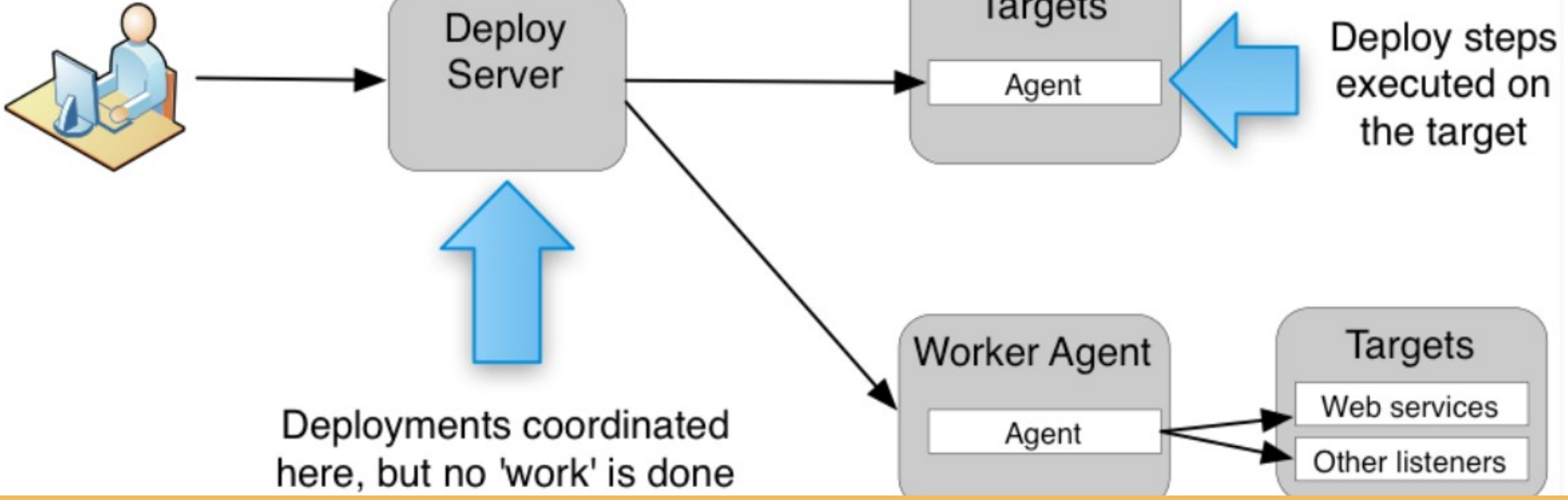
UrbanCode Deploy

Continuous delivery

Orchestrate deployments


Self-service: push to go

Incremental updates




Architecture

- ▼ Application Server
- ▼ CICS TS
 - Close resources
 - Disable resources
 - Discard resources
 - Enable resources

 Deploy Data Sets
Deploy Data Sets (v. 5)



 New copy resources
New copy resources (v. 22)



Finish

Web UI

Install CSD resources, groups, and lists
**Install BAS resources, resource descriptions
and groups**
Discard resources
Enable and disable resources
Open and close resources
New copy and phase in resources
Scan pipelines
Check the enabled or open status of resources

Summary

CI/CS Build Toolkit

CLI to build bundles and apps from a CI server; v4.1+

DFHDPLOY

JCL utility to deploy and undeploy bundles & apps in a single step

UrbanCode Deploy plug-in

Orchestrate and control CI/CS resources



Questions?

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Credits

Casino: <https://www.flickr.com/photos/zivkovic/5277882656/>

Seth Godin: <https://www.flickr.com/photos/jurvetson/3275235423/>

Island: https://www.flickr.com/photos/_dchris/15850580060/

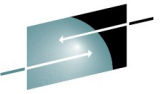
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