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software

CICS Resource Definitions as Part of a DevOps Pipeline

Ezriel Gross – Rocket Software

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CICS Virtual User Group

egross@rocketsoftware.com

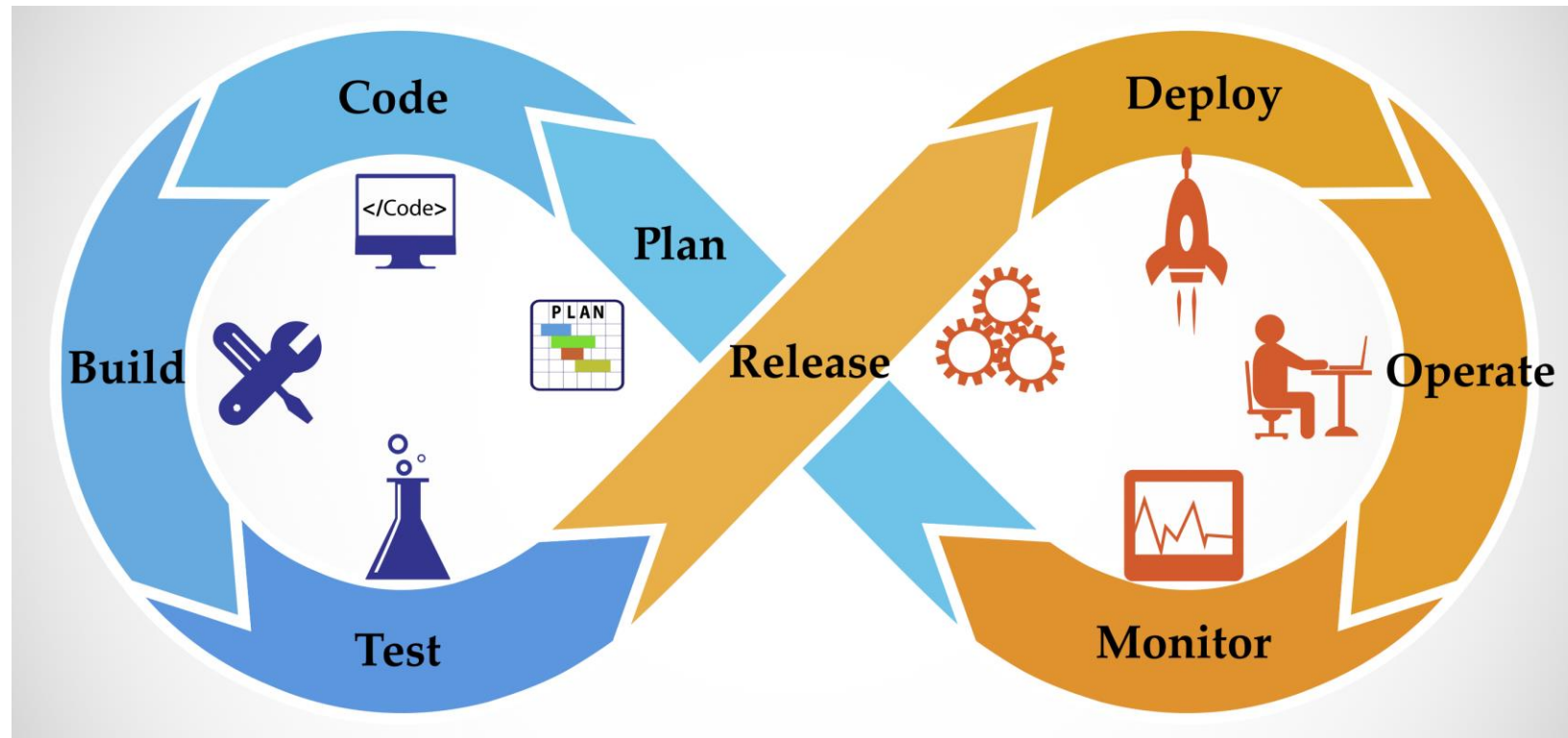
Agenda

- DevOps for Traditional CICS Applications
- Why CICS CM is useful
- Editing CSD files
- Delegating responsibilities
- Migrating resource changes
- Changes across LPAR boundaries
- Backout
- Audit compliance
- Cleanup and analysis
- Comparisons and exception analysis
- zFS Support
- CICS CM in the DevOps Pipeline

DevOps Pipeline for Traditional CICS Applications

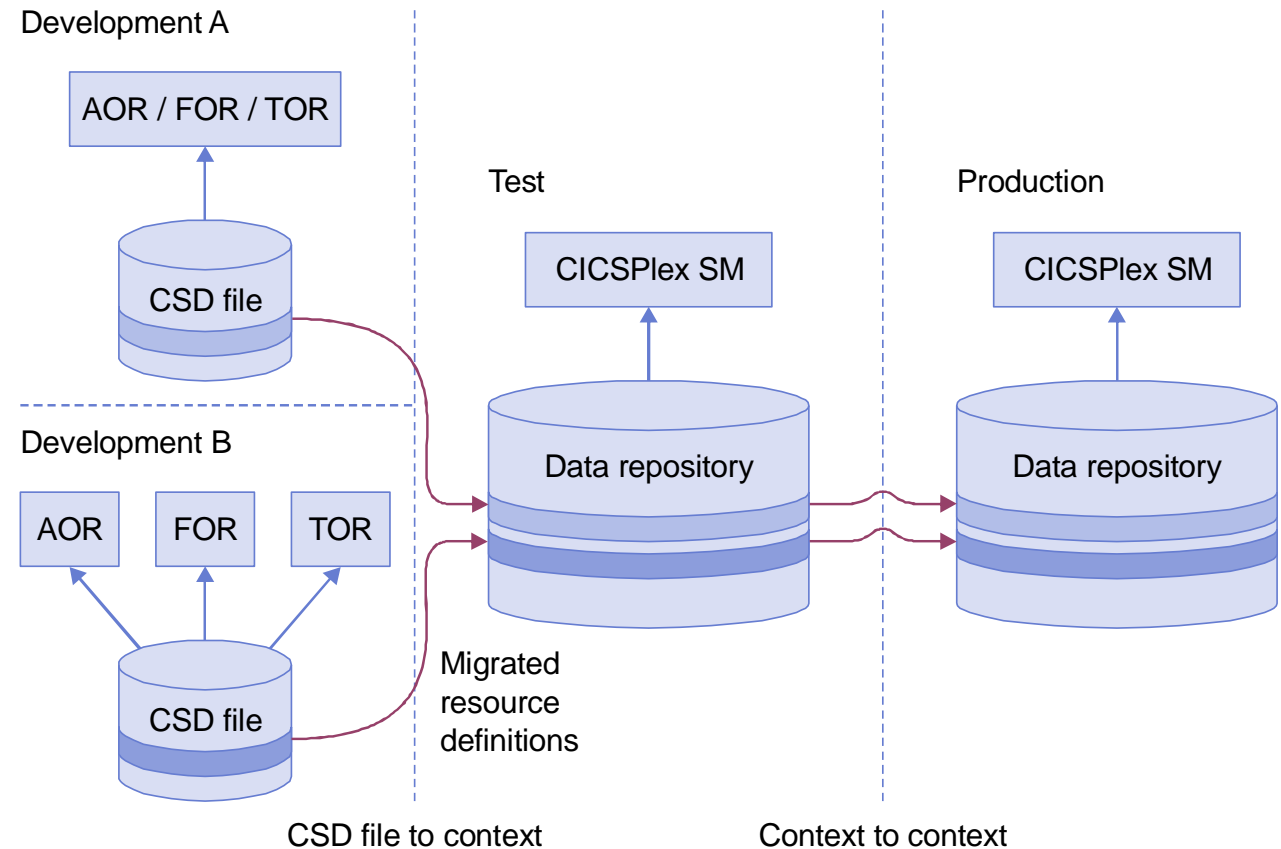
CICS Application

- Code Changes
- Resource Definition Changes

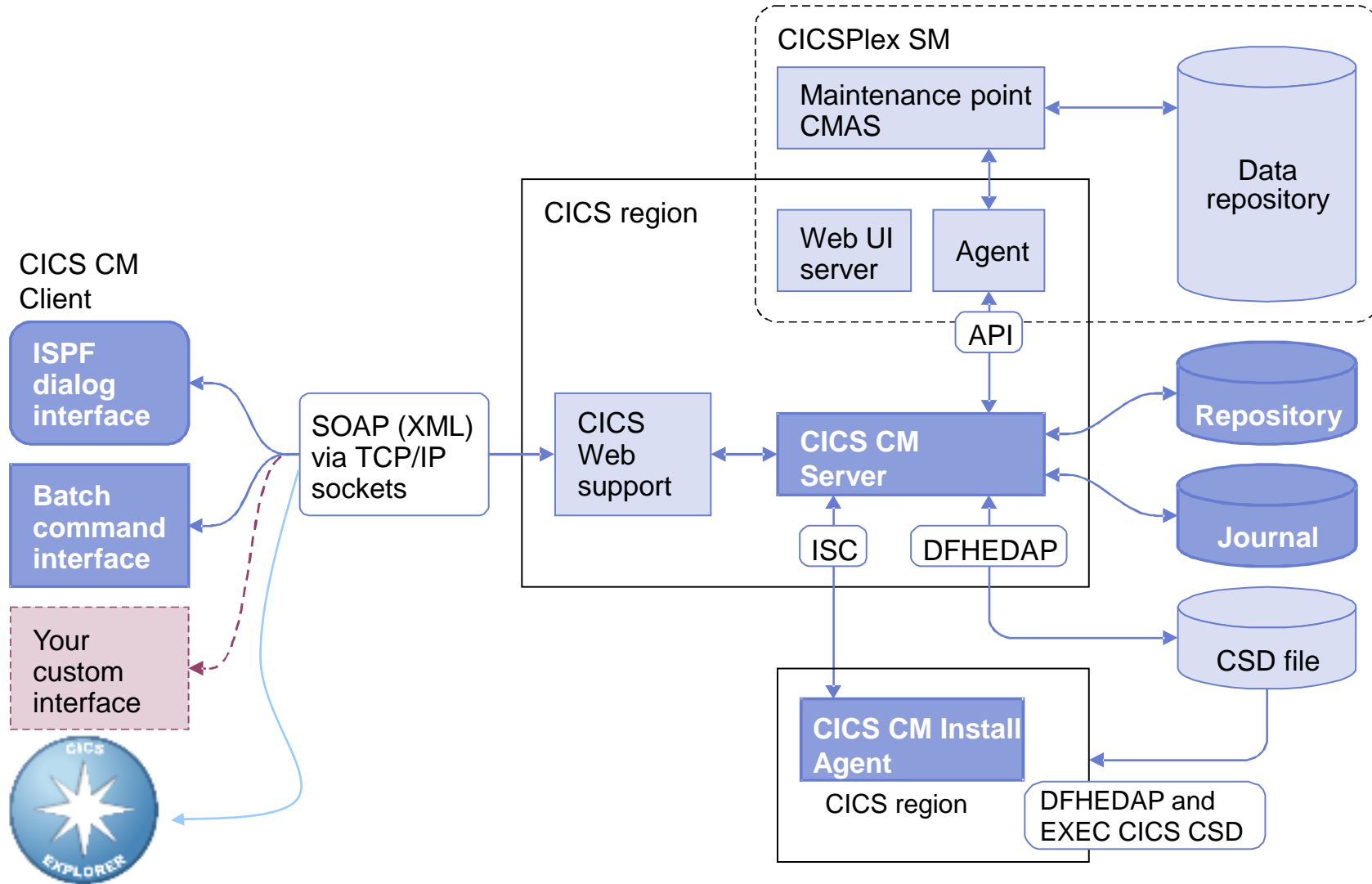


Why the need for CICS CM

- Manage resource definitions on multiple repositories across diverse environments
- Make rapid and frequent updates to resource definitions to handle new business requirements
- Understand the impact of definition attributes on target environments
- Identify duplicate, redundant, or inconsistent resource definitions



CICS CM architecture



CICS administration problems and solutions

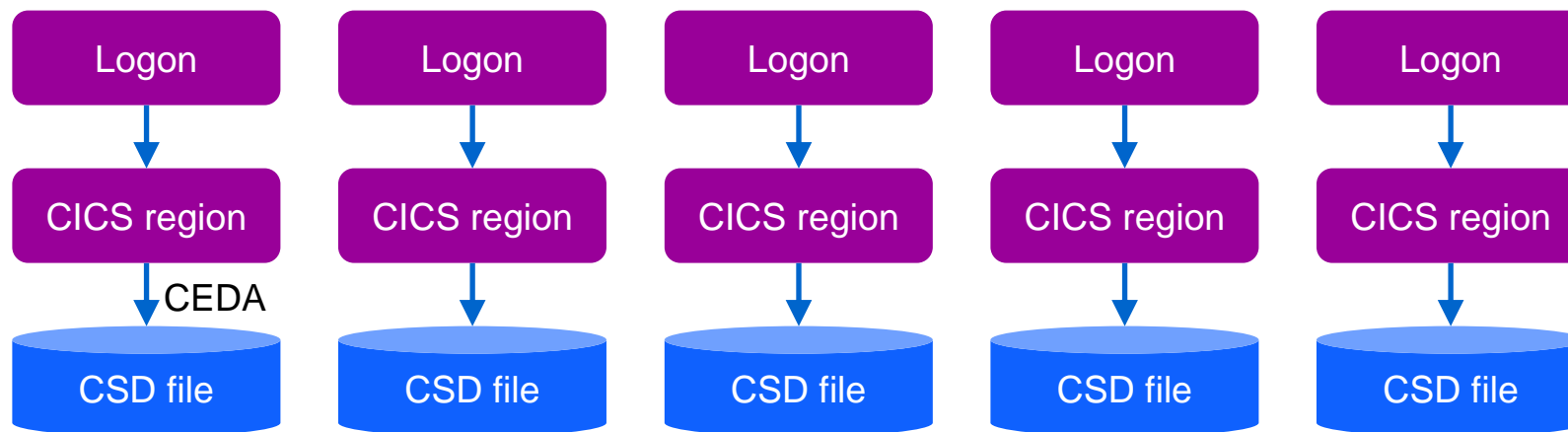
Sample use cases

- Editing CSD files
- Delegating and approving changes
- Migrating changes between environments
- Changes across LPAR boundaries
- Backout
- Audit compliance
- Clean-up and analysis
- Comparisons and exception analysis

Editing CSD files

Problem

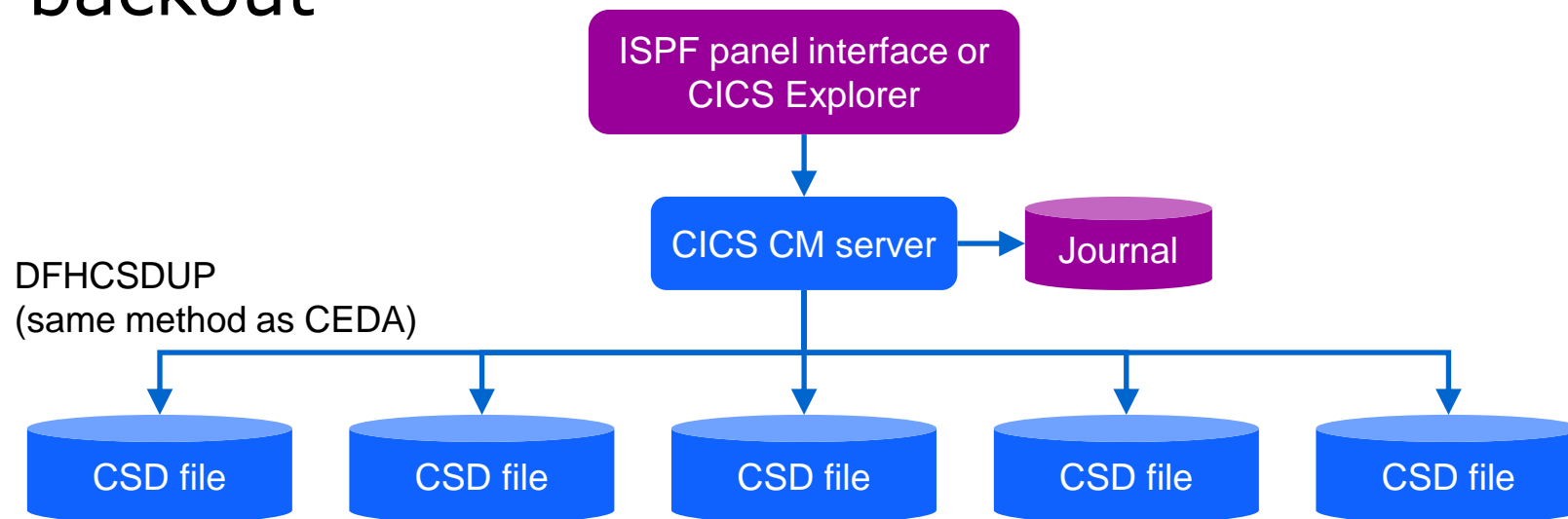
- Logon or route to each CSD's maintenance point
- CICS regions must be running
- No audit trail or easy backout



Editing CSD files

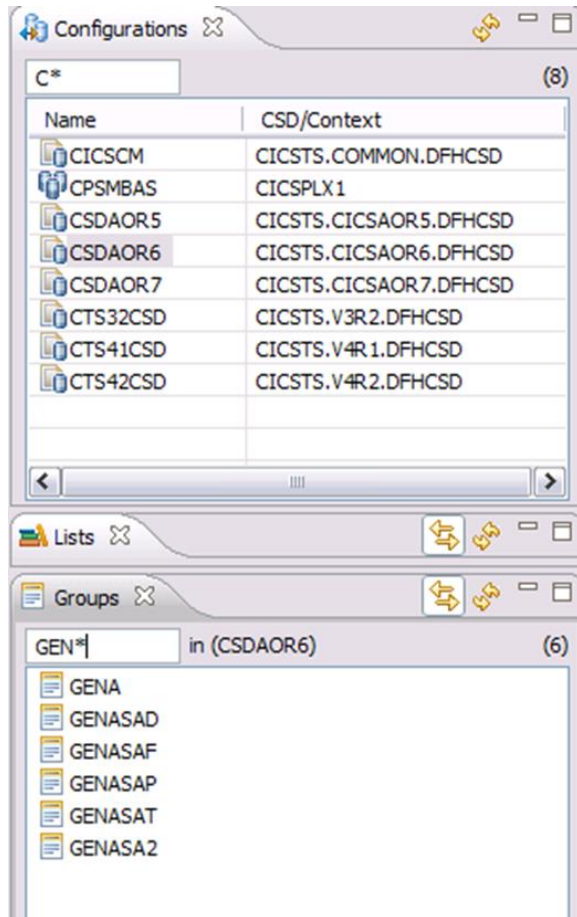
Solution

- Single point of control (via the CICS CM Server)
- Application CICS regions may be inactive
- Audit trail
- Easy backout



Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (Explorer)



Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (Explorer)

The screenshot displays the IBM Explorer interface, which provides a single point of control over resource definitions. The interface is divided into several panes:

- Configurations:** A table listing various CSDs and their contexts.
- Search Results:** A pane showing a search for resources across multiple groups.
- Lists and Groups:** Panes for navigating through lists and groups.

| Name | CSD/Context |
|----------|-----------------------|
| CICSCM | CICSTS.COMMON.DFHCS |
| CPSMBAS | CICSPX 1 |
| CSDAOR5 | CICSTS.CICSAOR5.DFHCS |
| CSDAOR6 | CICSTS.CICSAOR6.DFHCS |
| CSDAOR7 | CICSTS.CICSAOR7.DFHCS |
| CTS32CSD | CICSTS.V3R2.DFHCS |
| CTS41CSD | CICSTS.V4R1.DFHCS |
| CTS42CSD | CICSTS.V4R2.DFHCS |

All resources for CSDAOR6 Groups GENA, GENASAD, GENASAF, GENASAP, GENASAT, GENASA2

- DB2 Connection Definition (2)
- DB2 Entry Definition (2)
- Enqueue Model Definition (1)
- File Definition (2)
- Program Definition (26)
- Transaction Definition (10)

GEN* in (CSDAOR6)

- GENA
- GENASAD
- GENASAF
- GENASAP
- GENASAT
- GENASA2

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (Explorer)

The screenshot displays a software interface with a table of resource definitions. The table is titled 'All resources for CSDAOR6 Groups GENA, GENASAD, GENASAF, GENASAP, GENASAT, GENASA2' and is filtered to show 'DB2 Connection Definition (2)'. The context is 'CNX0211I Context: GENASAP. Resource: PROGDEF. 26 records collected at May 16, 2012 10:01:09 PM'. The table contains 26 rows of data, all with a status of 'ENABLED'.

| Name | Versi... | Create Time | Change Time | Change User ID | Description | Status |
|----------|----------|--------------------------|--------------------------|----------------|---------------------------------|-----------|
| LGICDB01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGICUS01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGICVS01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGIPDB01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGIPOL01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGIPVS01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGSETUP | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | Initial setup of TSQueue | ✓ ENABLED |
| LGSTSQ | 0 | Dec 13, 2011 12:20:46 PM | Dec 13, 2011 12:20:46 PM | DNETS14 | Message output to TSQueues | ✓ ENABLED |
| LGTESTC1 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | Solution Customer Menu | ✓ ENABLED |
| LGTESTP1 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | Solution Motor Policy Menu | ✓ ENABLED |
| LGTESTP2 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | Solution Life Policy Menu | ✓ ENABLED |
| LGTESTP3 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | Solution House Policy Menu | ✓ ENABLED |
| LGTESTP4 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | Solution Commercial Policy Menu | ✓ ENABLED |
| LGUPDB01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGUPOL01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| LGUPVS01 | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | | ✓ ENABLED |
| SSMAP | 0 | Dec 13, 2011 12:20:45 PM | Dec 13, 2011 12:20:45 PM | DNETS14 | BMS Map | ✓ ENABLED |

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface

The screenshot displays a software interface for managing CICS resources. On the left, a 'Configurations' pane shows a tree view of CSDs and Contexts, including CICS*, CICS*, CPSMBAS, CSDAOR.5, CSDAOR.6, CSDAOR.7, CTS32CSD, CTS41CSD, and CTS42CSD. Below this are panes for 'Lists' and 'Groups', with the 'Groups' pane showing a search for 'GEN*' in CSDAOR.6, listing groups like GENA, GENASAD, GENASAF, GENASAP, GENASAT, and GENASA2.

The main area is split into two panes. The left pane, titled 'Search Results', shows a table of resources for CSDAOR.6. The right pane, titled 'Program Definition (LGDPDB01)', shows the configuration for the selected resource.

| Name | Versi... | Create |
|----------|----------|---------|
| LGICDB01 | 0 | Dec 13, |
| LGICUS01 | 0 | Dec 13, |
| LGICVS01 | 0 | Dec 13, |
| LGIPDB01 | 0 | Dec 13, |
| LGIPOL01 | 0 | Dec 13, |
| LGIPVS01 | 0 | Dec 13, |
| LGSETUP | 0 | Dec 13, |
| LGSTSQ | 0 | Dec 13, |
| LGTESTC1 | 0 | Dec 13, |
| LGTESTP1 | 0 | Dec 13, |
| LGTESTP2 | 0 | Dec 13, |
| LGTESTP3 | 0 | Dec 13, |
| LGTESTP4 | 0 | Dec 13, |
| LGUPDB01 | 0 | Dec 13, |
| LGUPOL01 | 0 | Dec 13, |
| LGUPVS01 | 0 | Dec 13, |
| SSMAP | 0 | Dec 13, |

The 'Program Definition (LGDPDB01)' pane shows the following configuration:

- Basic**
 - Name: LGDPDB01
 - Description: [Empty]
 - CSD Group: GENASAP
 - Created: Dec 13, 2011 12:20:45 PM
 - Enabled:
 - Changed: Dec 13, 2011 12:20:45 PM
- Details**
 - Language: COBOL
 - Display Execution Diagnostic Facility (EDF) screens:
- Open Transaction Environment**
 - Programs that are coded to threadsafe standards can exploit the CICS open transaction environment (OTE). OTE provides the opportunity for performance improvements and toleration of APIs that are not normally permitted in a CICS application program.
 - This Program is threadsafe:
 - This Program is CPU intensive, which might include threadsafe CICS commands, and issues few non-threadsafe CICS commands, or uses APIs that are not normally permitted by CICS:
- Storage**
 - Can handle 31 bit addresses (above the 16MB line):
 - Use Program from the Link Pack Area (LPA):
 - Program can write to CICS-key storage:
- Program reuse**
 - Reuse if possible:
 - Force reuse:
 - Always load a new copy (requires explicit FREEMAIN):
 - Load a new copy whenever use count drops to zero:

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (ISPF)

Resources CICS Configurations Row 1 to 31 of 31
 Command ==> Scroll ==> PAGE
 More: < >

| Filter * | Name | Context | File name |
|----------|----------|----------|----------------------|
| / | CICSCM | | CICSTS.CICSCM.DFHCS |
| --- | CPSCMBAS | CICSPLX1 | |
| --- | CPSMBA5 | CICSPLX1 | |
| --- | CSDAOR3 | | CICSTS.CICSAOR3.DFH |
| --- | CSDAOR4 | | CICSTS.CICSAOR4.DFH |
| --- | CSDAOR6 | | CICSTS.CICSAOR6.DFH |
| --- | CSDAOR7 | | CICSTS.CICSAOR7.DFH |
| --- | CSDAOR8 | | CICSTS.CICSAOR8.DFH |
| --- | DEVT2553 | | DDS2553.CCV520.TOUR |
| --- | EXPORTPD | | DNET409.CM.EXPORT.F |
| --- | EXPORTST | | STANNA.CM.EXPORT.FI |
| --- | EXPTST52 | | DDS2553.CM52.EXPORT |
| --- | JOE | | CICSTS.JOETEST.DFHCS |
| --- | MEXICO | | DDS2170.CCM.EXPORT |
| --- | MEXICOIM | | DDS2170.CCM.EXPORT |
| --- | MEXICSD | | CICSTS.MEXICSD.DFHCS |
| --- | ZTEST | | /u/ccv000/wabc/test/ |
| --- | ZDEVT | | /u/ccv000/wabc/devt/ |

File Menu Settings Checksum Show Help

Groups CSDAOR6 CICS Resources Row 1 to 2 of 2
 Command ==> Scroll ==> PAGE

Filter GEN*

| Group | Prompt |
|---------|--------|
| GENA | |
| GENASAD | |
| GENASAF | |
| GENASAP | |
| GENASAT | |
| GENASA2 | |

--- Changed ---
 2016/12/09 14:21

File Menu Settings Checksum Search Show Help

Resources CSDAOR6 CICS Resources Row 1 to 10 of 10
 Command ==> Scroll ==> PAGE

Filter * PROGRAM + GEN* *

| Name | Type | Group | Prompt | --- Changed --- |
|----------|---------|---------|--------|------------------|
| LGACDB01 | PROGRAM | GENASAP | | 2017/09/15 10:48 |
| LGACUS01 | PROGRAM | GENASAP | | 2017/10/09 14:42 |
| LGACVS01 | PROGRAM | GENASAP | | 2017/10/09 14:42 |
| LGAPDB01 | PROGRAM | GENASAP | | 2017/09/20 14:21 |
| LGAPOL01 | PROGRAM | GENASAP | | 2017/11/14 14:31 |
| LGAPVS01 | PROGRAM | GENASAP | | 2017/09/14 14:42 |
| LGDPDB01 | PROGRAM | GENASAP | | 2017/08/11 13:32 |
| LGDPOL01 | PROGRAM | GENASAP | | 2016/12/13 07:03 |
| LGDPVS01 | PROGRAM | GENASAP | | 2016/10/18 09:04 |
| LGICDB01 | PROGRAM | GENASAP | | 2016/12/15 14:30 |
| LGICUS01 | PROGRAM | GENASAP | | 2016/12/15 14:30 |
| LGICVS01 | PROGRAM | GENASAP | | 2016/12/15 14:30 |

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (ISPF)

The image displays three overlapping screenshots of an ISPF (Interactive System Programming Facility) interface, demonstrating a single point of control for resource definitions.

Top Left Screenshot: CICS Configurations

Resources CICS Configurations Row 1 to 31 of 31
 Command ==> Scroll ==> PAGE
 More: < >

| Filter * | Name | Context | File name |
|----------|----------|----------|-----------------------|
| / | CICSCM | | CICSTS.CICSCM.DFHCS |
| — | CPSCMBAS | CICSPLX1 | |
| — | CPSMBA5 | CICSPLX1 | |
| — | CSDAOR3 | | CICSTS.CICSAOR3.DFHCS |
| — | CSDAOR4 | | CICSTS.CICSAOR4.DFHCS |
| S | CSDAOR6 | | CICSTS.CICSAOR6.DFHCS |
| — | CSDAOR7 | | CICSTS.CICSAOR7.DFHCS |
| — | CSDAOR8 | | |
| — | DEVT2553 | DD | |
| — | EXPORTPD | DN | |
| — | EXPORTST | ST | |
| — | EXPTST52 | DD | |
| — | JOE | CI | |
| — | MEXICO | DD | |
| — | MEXICOIM | DD | |
| — | MEXICSD | CI | |
| — | ZTEST | /u | |
| — | ZDEVT | /u | |

Top Right Screenshot: Edit Program

File Menu Settings Help
 Edit Program
 Command ==>

```

Program . . . . : LGDPDB01
Group . . . . . : GENASAP
Location . . . . : CICSTS.CICSAOR6.DFHCS
Change Date . . :
Description . . .
  
```

More: +

| Attribute | Value | Description |
|--------------|-----------|--|
| Language | COBOL | Program language |
| Reload | NO | Reload new copy on each execution |
| Resident | NO | In-storage residence after first use |
| Usage | NORMAL | Program storage release |
| UseLPACopy | NO | Use program from the link pack area |
| Status | ENABLED | Enabled for use status |
| CEDF | YES | Display CEDF diagnostic screens |
| DataLocation | ANY | In-memory storage address data location |
| ExecKey | USER | Program execution key |
| Concurrency | QUASIRENT | Concurrent execution resource protection |
| API | CICSAPI | API interface used by the program |

Bottom Screenshot: Resources CSD

Resources CSD
 Command ==>

| Filter * | Name | Type |
|----------|----------|---------|
| / | LGACDB01 | PROGRAM |
| — | LGACUS01 | PROGRAM |
| — | LGACVS01 | PROGRAM |
| — | LGAPDB01 | PROGRAM |
| — | LGAPOL01 | PROGRAM |
| — | LGAPVS01 | PROGRAM |
| S | LGDPDB01 | PROGRAM |
| — | LGDPOL01 | PROGRAM |
| — | LGDPVS01 | PROGRAM |
| — | LGICDB01 | PROGRAM |
| — | LGICUS01 | PROGRAM |
| — | LGICVS01 | PROGRAM |

Single point of control over Resource Definitions

Working with Multiple Configurations

Menu option 4.1, Reports > Multiple Configs

Reports CICS Configurations Row 1 to 12 of 12
Command ==> _____ Scroll ==> PAGE
More: < >

Select one or more CICS configurations and press Enter

Filter DEMO*

Select multiple

| / | Name | Context | CSD File | Format |
|----------|----------|----------|------------------------|--------|
| | DEMO | | CCVCICS.DEMO.DFHCS | CSD |
| <u>S</u> | DEMOCPM | CCVPLEXK | | CPSM |
| <u>S</u> | DEMODEVT | | CCVCICS.DEMODEVT.DFHCS | CSD |
| | DEMOPROD | | CCVCICS.DEMOTEST.DFHCS | CSD |
| <u>S</u> | DEMOTEST | CPSM1 | | CPSM |

Display multiple

Resources Multiple Configuration Resource Row 106 to 120 of 1,366
Command ==> _____ Scroll ==> PAGE

Filter * _____ PROGRAM + DEMOGRP1

| / | Name | Type | Group | Prompt | Config |
|---|----------|---------|----------|--------|----------|
| | DEMAMG10 | PROGRAM | DEMOGRP1 | | DEMOCPM |
| | DEMAMG10 | PROGRAM | DEMOGRP1 | | DEMODEVT |
| | DEMAMG10 | PROGRAM | DEMOGRP1 | | DEMOTEST |

1st Demo

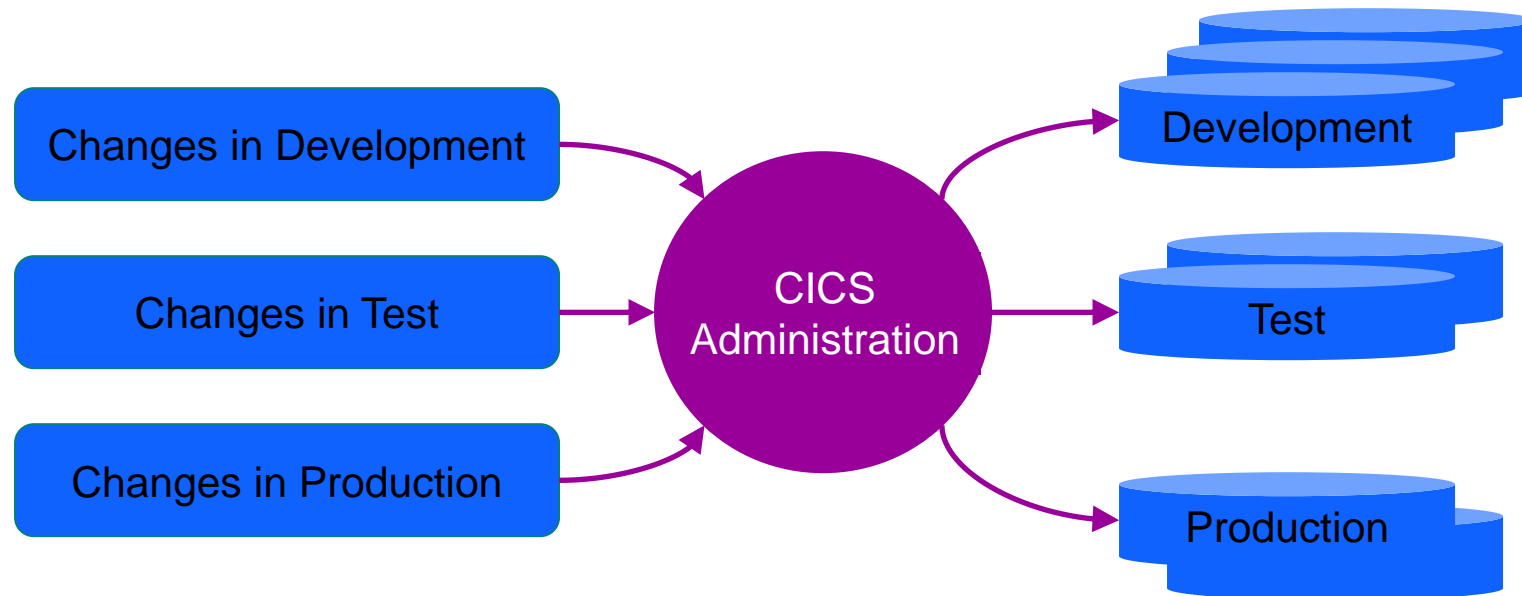
- Working with CSDs
- Modifying Resource Definitions
- Search, History, Compare



Delegating responsibilities

Problem

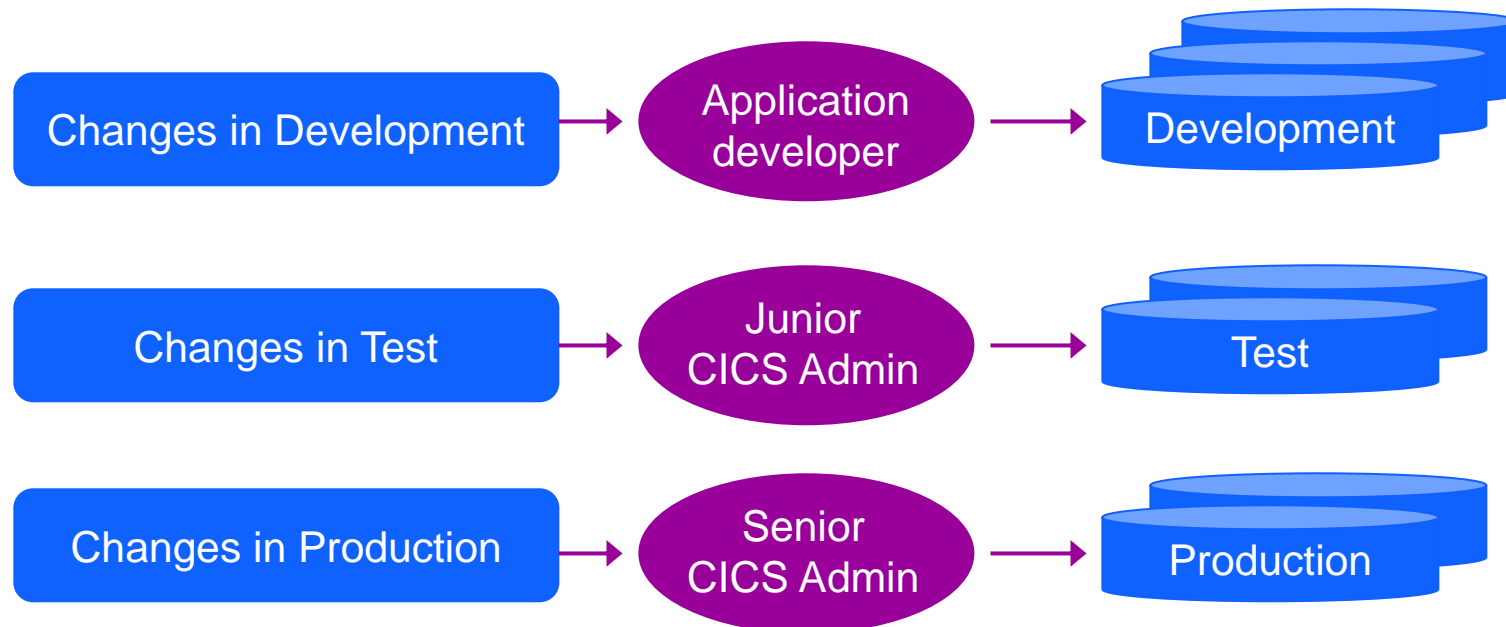
- Administration bottlenecks for resource definition changes
- CICS support personnel are overworked and scarce
- Complexity and 'institutional knowledge' makes delegation risky



Delegating responsibilities

Solution

- Security controls by repository, Group, type and name
- Standards enforcement for attribute values
- Approve change packages before migration
- Audit trail with easy backout



Delegating responsibilities

Solution

```

Edit
Command ==> _____
Program
Program . . . : DEMACOPY
Group . . . . : DEMAGRP1
Location . . . : CCVPLEXF
Change Date . : 2017/10/30 10:32:01.74
Description . . Demonstration - COPY API Handler - changed
                                                    More: +
Language . . . COBOL + Default Alternative Values
Reload . . . . NO + NO ASSEMBLER C COBOL LE370 PLI
Resident . . . NO + NO YES
Usage . . . . . NORMAL + NORMAL TRANSIENT
UseLPACopy . . NO + NO YES
Status . . . . . ENABLED + ENABLED DISABLED
CEDF . . . . . NO + YES NO
DataLocation . ANY + BELOW ANY
ExecKey . . . . USER + USER CICS
Concurrency . . QUASIRENT + QUASIRENT REQUIRED THREADSAFE N_A
API . . . . . CICSAPI + CICSAPI OPENAPI

```

1. Set CEDF(NO) which violates standards, then SAVE

Delegating responsibilities

Solution

```
Exception Messages
Row 1 to 3 of 3
Command ==> _____ Scroll ==> PAGE
Messages
XPRA: Create/Update of this resource was rejected by a site Exit. Rule
. details: PGM_0001-A-0001
XPRA: Attribute CEDF must have value YES
***** Bottom of data *****
```

Standards enforced

| RULE NAME | ATTRIBUTE | CONDITION | ACTION |
|-----------|-----------------|-------------|--------|
| PGM_0001 | Q PROGDEF_GROUP | EQ DEMOGRP1 | |
| PGM_0001 | Q PROGDEF_NAME | EQM DEMA* | |
| PGM_0001 | A PROGDEF_CEDF | NE YES | REJECT |

Delegating responsibilities

Solution

```

      _____ Program _____
                SAVEAS Confirmation   Authorization failed

Enter details and press Enter to save new PROGRAM

Name . . . . . DEMACOPY
Group . . . . . PAYROLL +
CICS Configuration . . DEMODEVT +
    
```

```

You are not authorized to perform the requested function. Security
failure details are logged in the CICS Configuration Manager server job
output, using a message prefix DFHXS.
    
```

```

CEDF . . . . . YES +          YES          NO
DataLocation ANY +          BELONG
ExecKey . . . . . USER +      U
Concurrency . . QUASIRENT +   Q
API . . . . . CICSAPI +       C
    
```

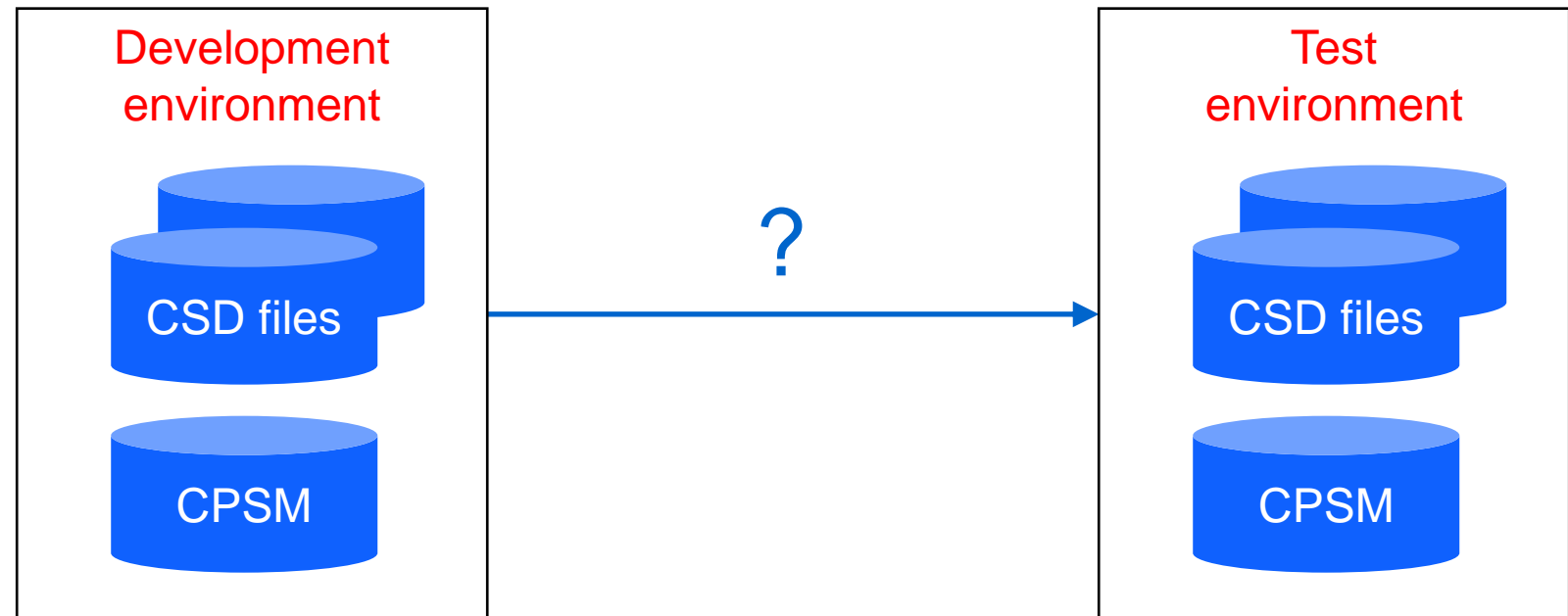
| RACF | PFX | CONFIG | GROUP | TYPE | NAME |
|--------|--------------------------------|--------|-------|------|------|
| PERMIT | CCV.DEMOCPSM.PAYROLL.PROGDEF.* | | | | |
| | CLASS(XFACILIT) | | | | |
| | ID(RJA2) ACC(NONE) | | | | |

Secure definitions by repository, Group, Type and Name

Migrating changes between environments

Problem

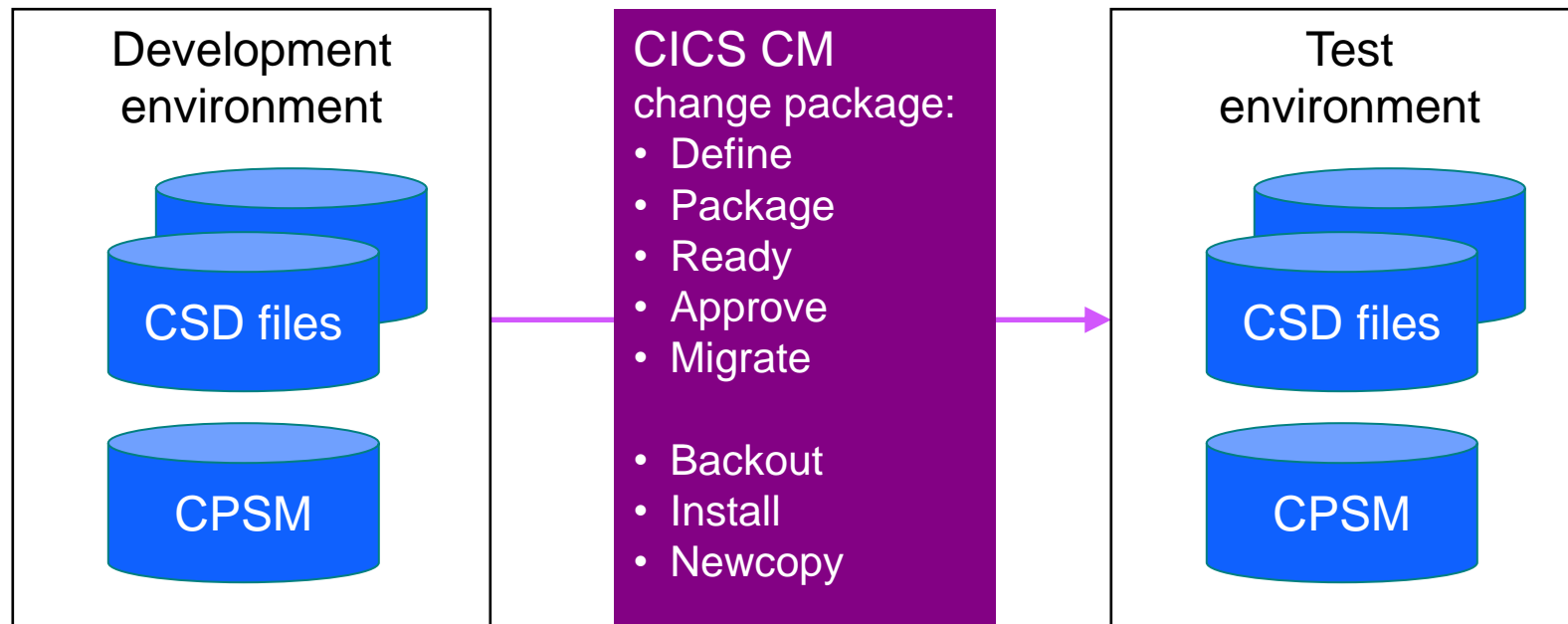
- How do you systematically promote resource definition changes?
 - Collecting sets of definitions
 - Tailoring definition attributes (data set names in Files)
 - Identifying and updating target CSD files or CPSM BAS repositories



Migrating changes between environments

Solution

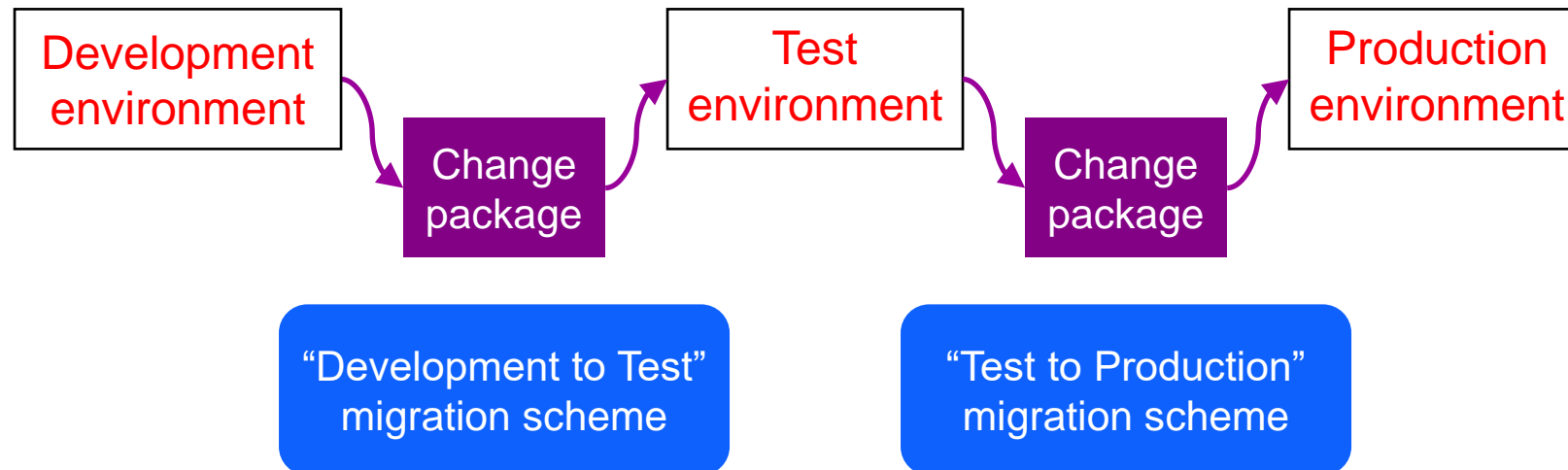
- Group changes into a CICS CM change package
- Manage the package as a single unit
- Supports Ready, Approve, and Backout processing
- APIs and exit-points for integration to change-control products



Migrating changes between environments

Solution

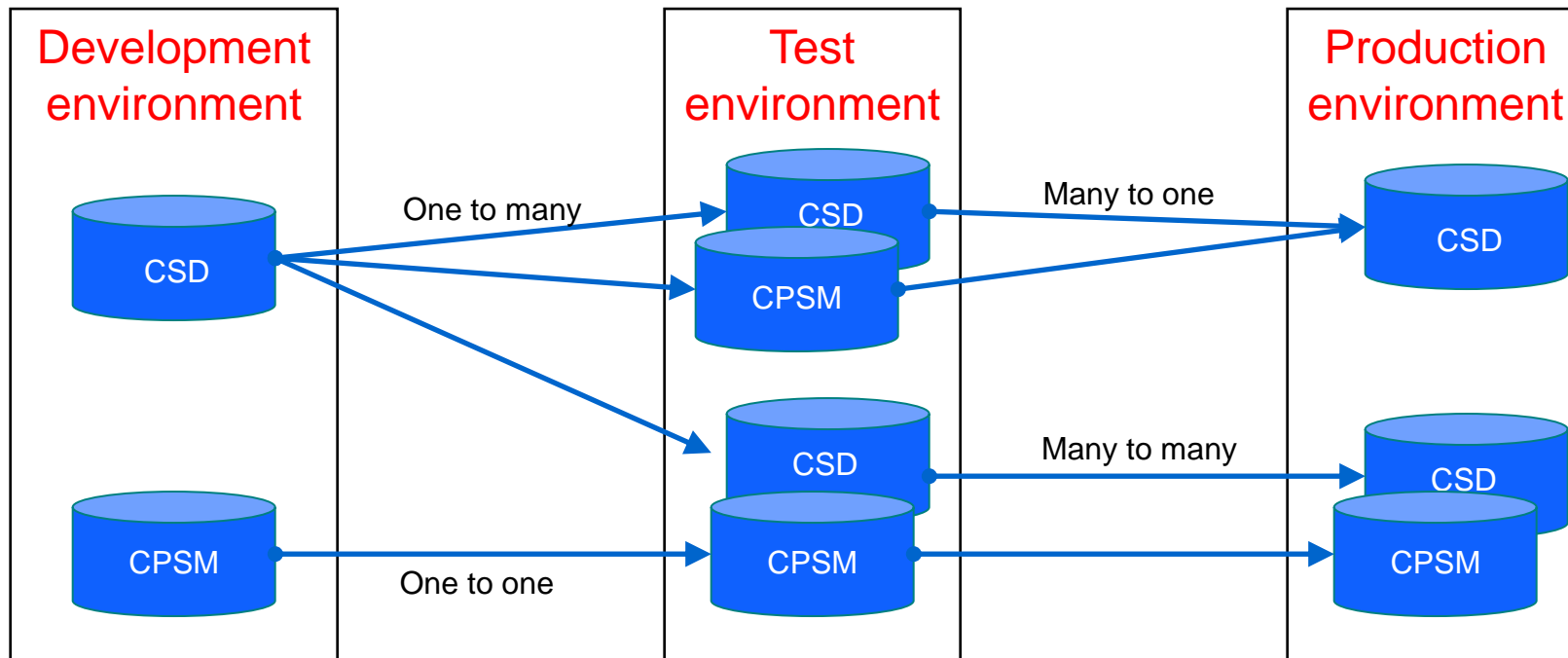
- Migration schemes identify source and target repositories
- Different schemes to progressively migrate a change package



Migrating changes between environments

Solution

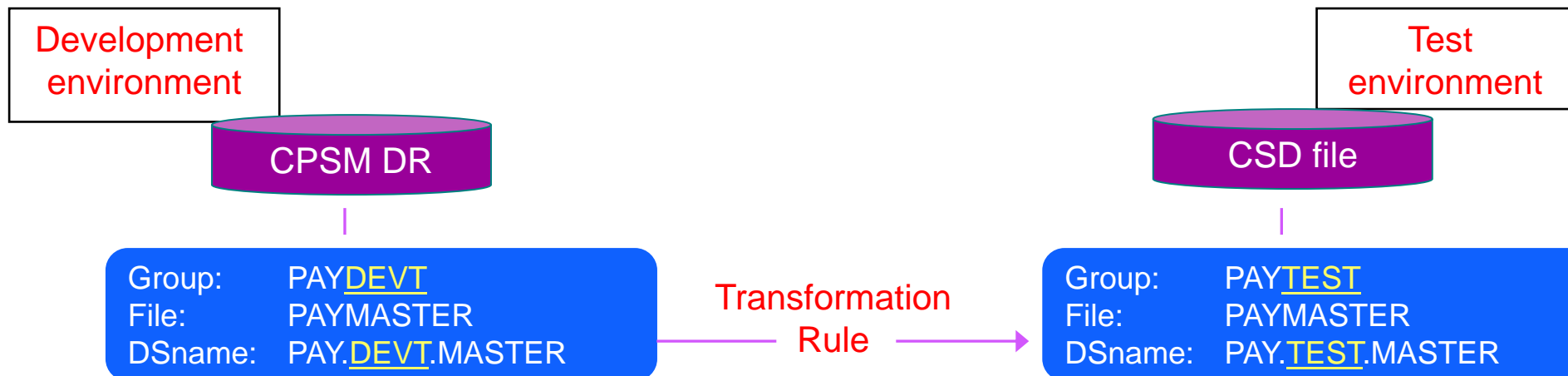
- Schemes can intermix CSD files or CPSM repositories
- Supports one or many source/target pairs in any combination



Migrating changes between environments

Solution

- Transformation rules tailor definitions for each target:
 - No manual editing – it's automatic
 - You can change group names, attribute values, or resource definition names
 - Value masking is supported (e.g. change File DSNNAME *DEVT* to *TEST*)
 - Qualification criteria may be specified



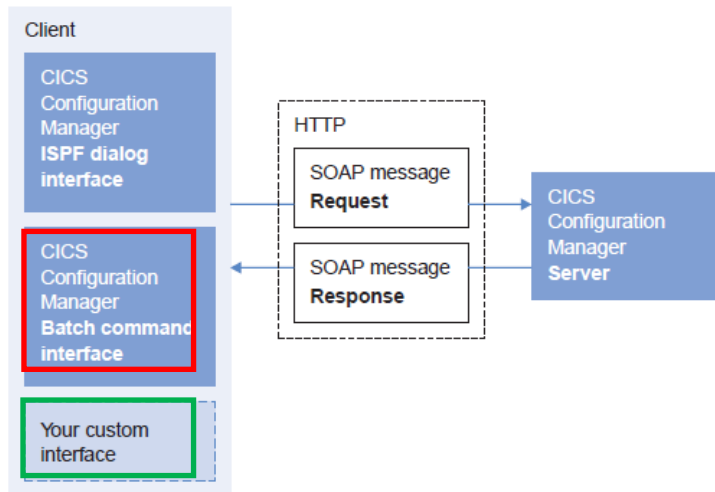
2nd Demo:

- Change Packages
- Migration Schemes
- Transformation Rules



CICS resource definition lifecycle management

CI/CD Pipeline script can invoke CICS CM via batch jobs or using SOAP



Batch Interface

```

//READY EXEC PGM=CCVBMAIN,REGION=3M
//STEPLIB DD DISP=SHR,DSN=CTSTOOLS.CICSCM.SCCVAENU
// DD DISP=SHR,DSN=CTSTOOLS.CICSCM.SCCVAUTH
//SYSUDUMP DD SYSOUT=*
//CCVPRINT DD SYSOUT=*
//CCVPARMS DD *
CONNECT IPADDRESS=ESYSMVS,PORT=6023,SSL=NO
READY CPID=00000002,SCHEME=AOR6T07

//MIGRATE EXEC PGM=CCVBMAIN,REGION=3M
//STEPLIB DD DISP=SHR,DSN=CTSTOOLS.CICSCM.SCCVAENU
// DD DISP=SHR,DSN=CTSTOOLS.CICSCM.SCCVAUTH
//SYSUDUMP DD SYSOUT=*
//CCVPRINT DD SYSOUT=*
//CCVPARMS DD *
CONNECT IPADDRESS=ESYSMVS,PORT=6023,SSL=NO
MIGRATE CPID=00000002,SCHEME=AOR6T07
  
```

SOAP Interface

```

<CCV540>
<READY>
<SELECTIONCRITERIA>
<CPID>00000002</CPID>
<SCHEME>AOR6T07</SCHEME>
</SELECTIONCRITERIA>
</READY>
</CCV540>

<CCV540>
<MIGRATE>
<SELECTIONCRITERIA>
<CPID>00000002</CPID>
<SCHEME>AOR6T07</SCHEME>
</SELECTIONCRITERIA>
</MIGRATE>
</CCV540>
  
```

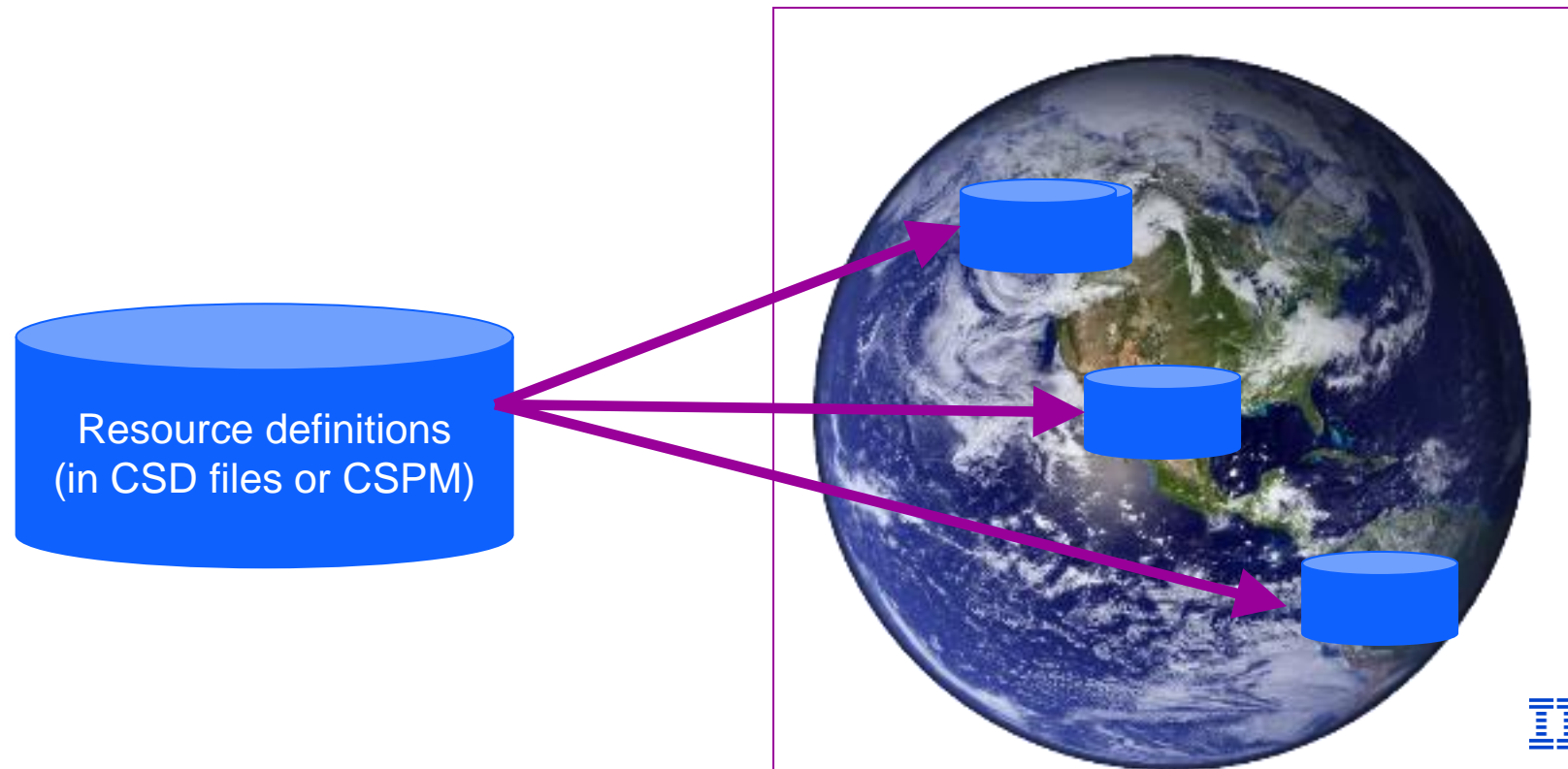
Available packaging commands:

- Ready / Unready
- Approve / Disapprove
- Migrate / Backout
- Disapprove
- Install / Discard / Newcopy
- Import

Changes across LPAR boundaries

Problem

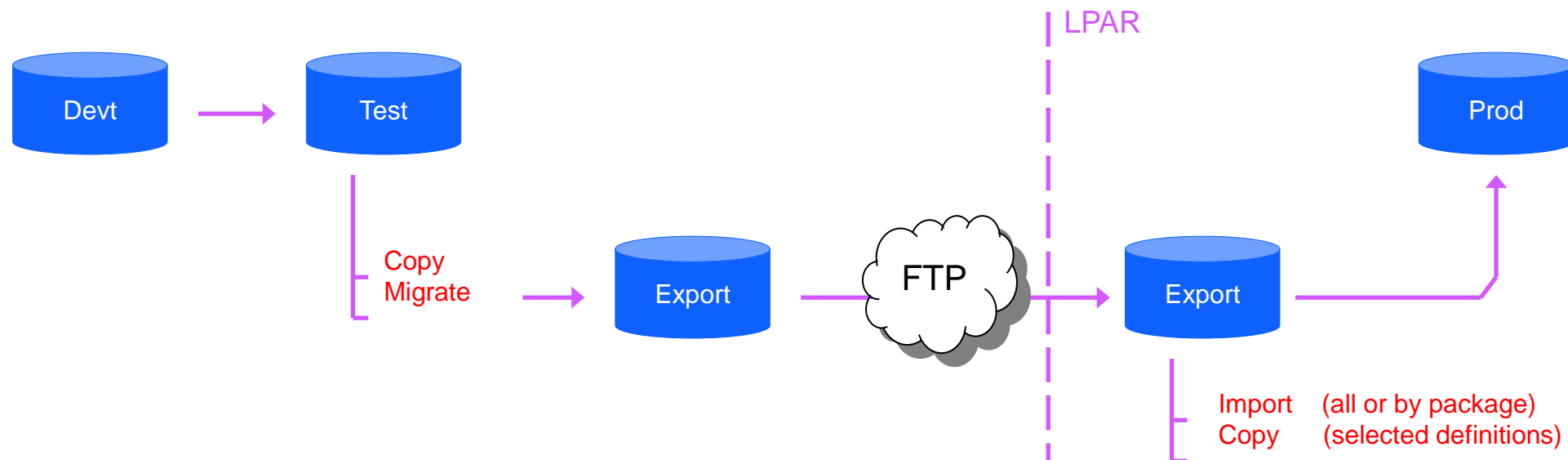
- Need to distribute resource definition changes to remote CICS sites across LPAR boundaries



Changes across LPAR boundaries

Solution

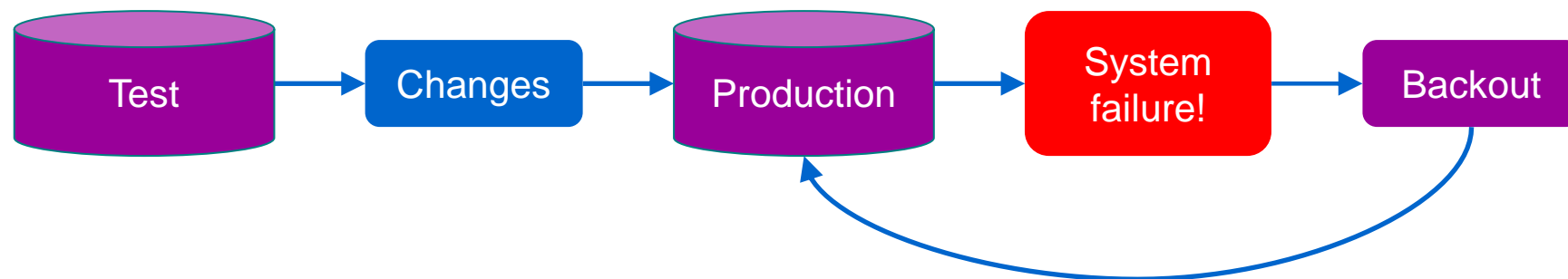
- Export definitions selectively by Copy or via change package Migrate
- Samples illustrate automated file transfer to remote sites
- Import definitions with auto-register of change packages



Backout

Solution

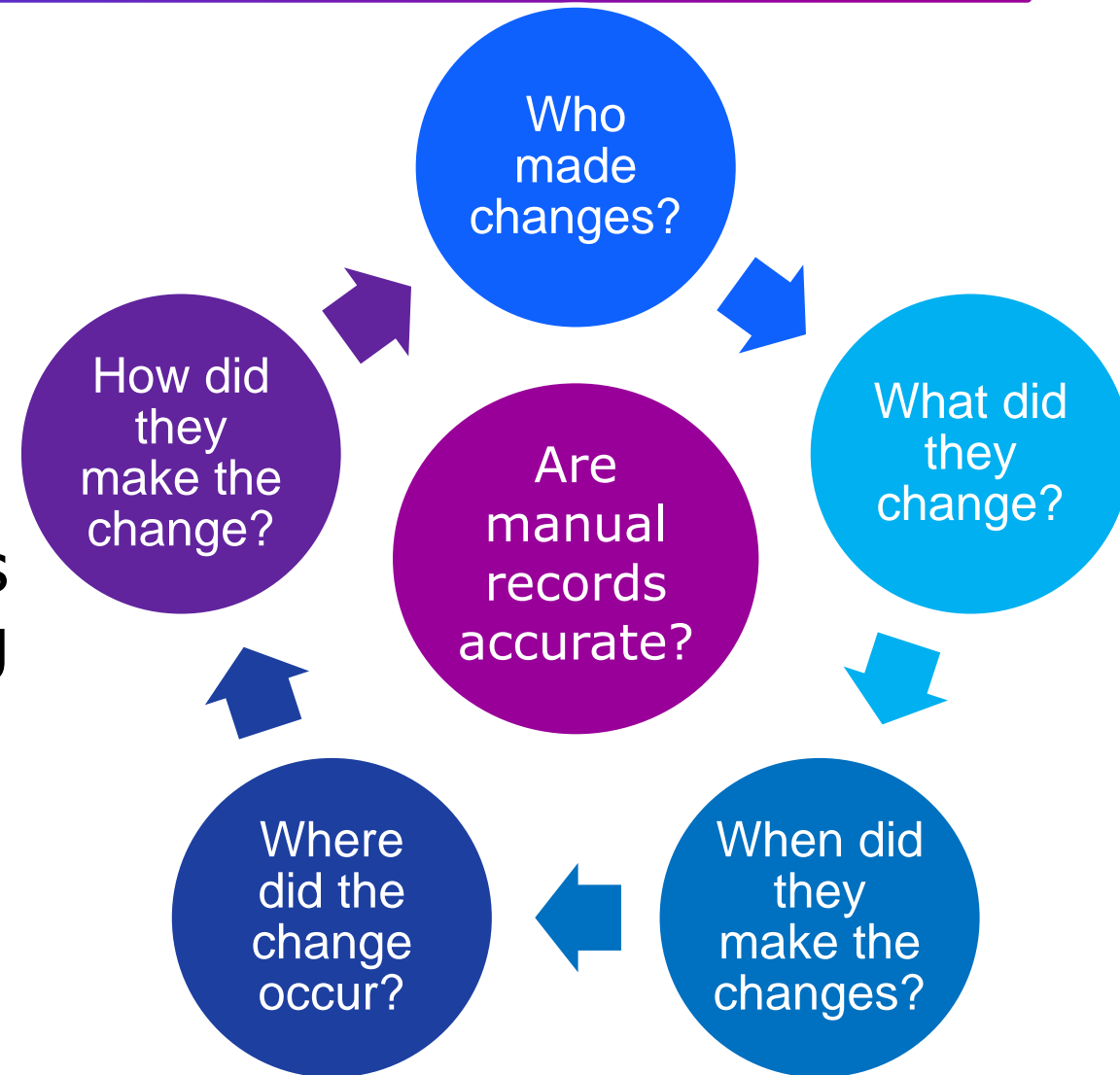
- All changes logged to a journal file
- Backout entire change package
- Recover individual resource definitions
- View resource definition histories on screen



Audit Compliance

Problem

- Requirement to collect audit data
- Searching and reporting results is cumbersome and time consuming



Audit Compliance

Solution

- All changes logged to a journal file
- Online histories and journal-event views
- ISPF, Explorer and Batch journal audit reporting

History Properties

Resource History for CSDAOR6 from 2013/08/14 09:52:30 to latest entry

| Revision Time | Resource Name/After | Resource Type/Before | Group | User Name | Configuration | Command |
|------------------------|---------------------|----------------------|-----------|-----------|---------------|---------|
| ▲ This Week | | | | | | |
| ▶ 2013/11/13 15:28:44 | STAT | TRANDEF | DFH\$STAT | DDS1964 | CSDAOR6 | INSTALL |
| ▶ 2013/11/13 15:22:05 | STAT | TRANDEF | DFH\$STAT | DDS1964 | CSDAOR6 | INSTALL |
| ▲ 2013/11/12 14:14:35 | TEST | TRANDEF | DEMOGRP | DNET461 | CSDAOR6 | UPDATE |
| | TWASIZE | 0 | | | | |
| ▲ 2013/11/12 14:14:11 | TEST | TRANDEF | DEMOGRP | DNET461 | CSDAOR6 | UPDATE |
| | TWASIZE | 100 | | | | |
| ▶ 2013/11/12 14:10:18 | TEST | TRANDEF | DEMOGRP | DNET461 | CSDAOR6 | CREATE |
| ▲ Older Than This Week | | | | | | |
| ▶ 2013/11/05 07:45:56 | FILE1 | FILEDEF | AAA | STANNA | CSDAOR6 | DELETE |
| ▶ 2013/11/05 07:45:56 | TEST | ATOMDEF | AAA | STANNA | CSDAOR6 | DELETE |
| ▶ 2013/11/05 07:45:56 | DFH\$W2F1 | ATOMDEF | AAA | STANNA | CSDAOR6 | DELETE |
| ▶ 2013/11/04 11:31:44 | LGTESTC1 | PROGDEF | GENASAP | DNET345 | CSDAOR6 | UPDATE |
| ▶ 2013/11/04 09:07:00 | SSC1 | TRANDEF | GENASAT | DNET345 | CSDAOR6 | UPDATE |

Audit Compliance

Solution

```
Compare Transaction
Command ==> _____

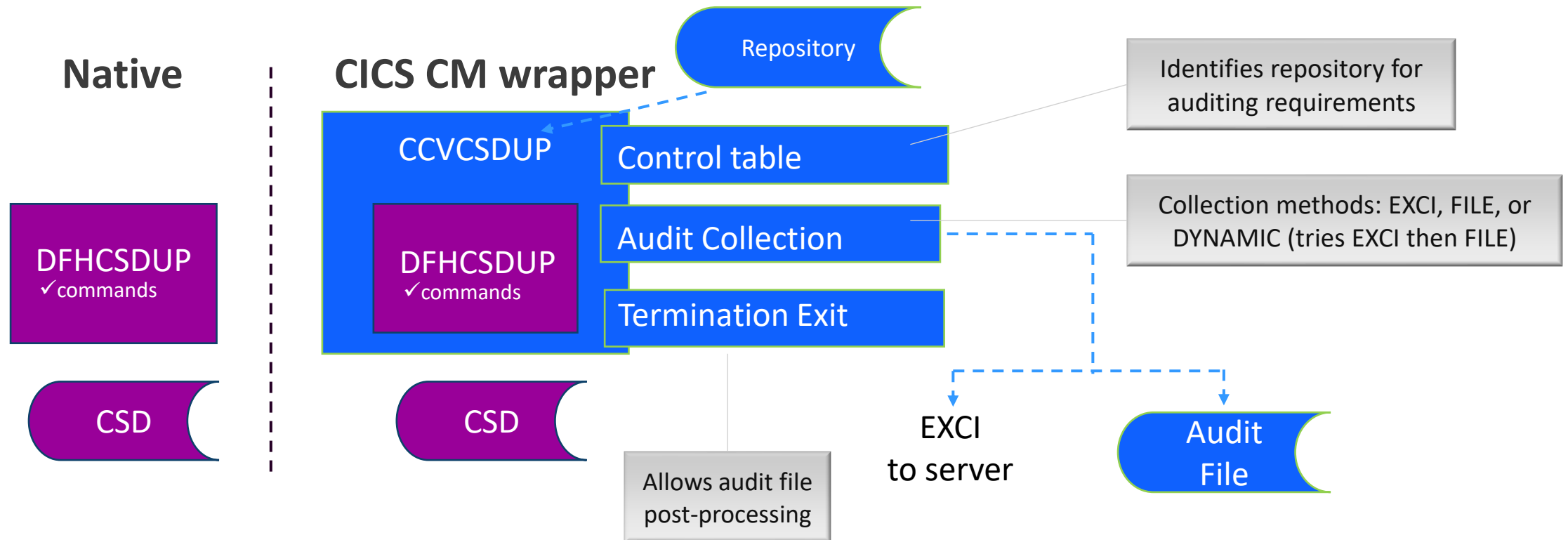
Transaction . : TEST TEST
ResGroup . . : DEMOGRP DEMOGRP
Location . . : CCVCICS.CICSREG.ABCCSD CCVCICS.CICSREG.ABCCSD
==> Change Date . : 2017/11/01 08:11:31.10 2017/11/01 08:11:12.47
Description . :

More: +

==> Program . . . : GETWIT GETWIT
TWAsize . . . : 0 100
Profile . . . : DFHCICST DFHCICST
PartitionSet :
Status . . . : ENABLED ENABLED
TaskDataLoc . : BELOW BELOW
TaskDataKey . : USER USER
StorageClear : NO NO
Runaway . . . : SYSTEM SYSTEM
Shutdown . . : DISABLED DISABLED
Isolate . . . : YES YES
BRexit . . . :
```

Audit Compliance – When DFHCSDUP is used

- Collect DFHCSDUP audit records with no changes to existing interfaces or to existing JCL DFHCSDUP jobs



Cleanup and analysis

- Do I have:
 - Orphan Groups (Groups unrelated to any Lists)
 - Duplicated definitions (same name, different attribute values)
 - Redundant definitions (same attribute values, different names)
- How do I find ... a needle in a haystack?
 - All PAY files using LSRpoolID(1)
 - All programs using DataLocation(BELOW)

Comparisons and exception analysis

- Side-by-side compare of Lists, Groups, or Resources
- Compare across CSDs, CPSM DRs, or history views
- 'Checksum' analysis (hash-value used as a compare indicator)
 - Predefined attribute lists for checksum calculation
 - User-selectable attributes for checksum calculation
 - n-Way analysis across 2, 3, 4 or multiple repositories
 - 'Show' exception analysis to highlight anomalies

Comparisons and exception analysis

```

File  Menu  Settings  Checksum  Help
-----
Compare - All Resources          Group          Row 1 to 12 of 30
Command ==> _____ Scroll ==> PAGE
                                   More: < >

Scroll right (NextPage) to view other reports

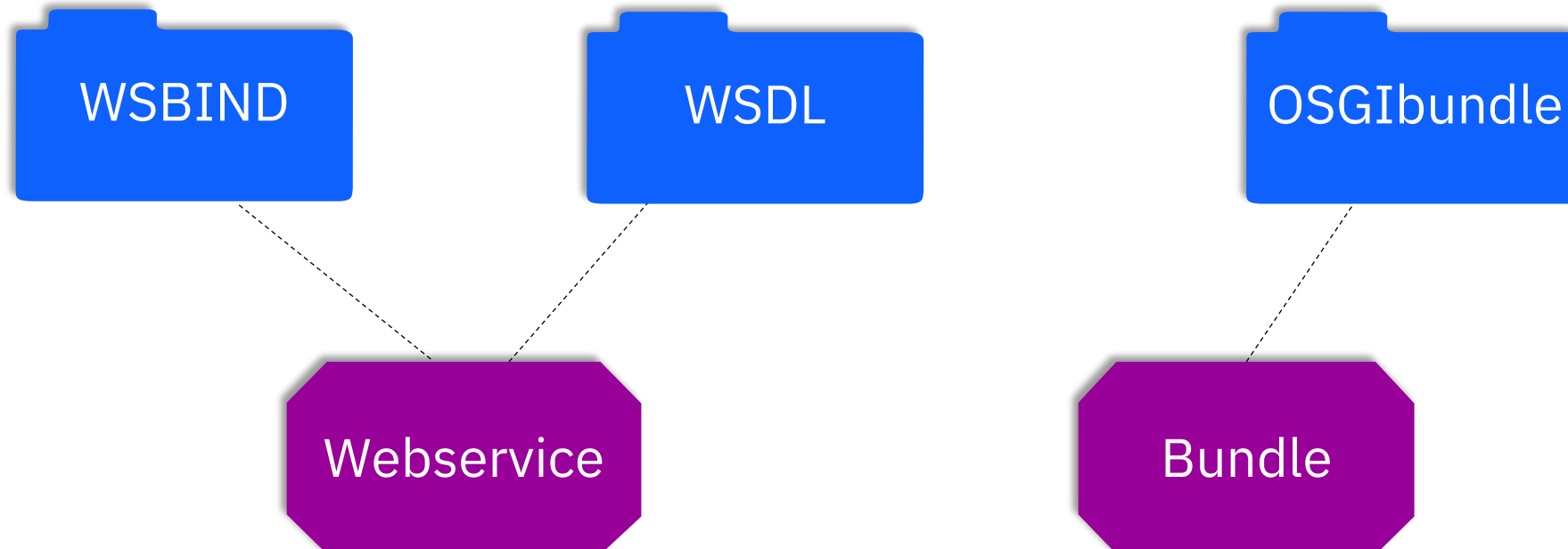
Group . . . . : DEMOGRP          DEMOGRP
Local Compare
Change Command ==> _____ Transaction
Anoma

Transaction . : DT00          DT00
Group . . . . : DEMOGRP      DEMOGRP
==> Location . : CICSTS.CICSAOR6.DFHCS  CICSTS.CICSAOR7.DFHCS
==> Change Date . : 2011/09/13 09:09:34.82  2005/06/09 16:10:49.00
Filter Description . :
/ TRprof . . . . : DFHCICSS      DFHCICSS
cm LocalQ . . . . : N_A          N_A
Scheduling
==> Priority . . . . : 2          1
TranClass . . . . : DFHTCL00     DFHTCL00
Aliases
Alias . . . . :
-----
OISA0010 PROGRAM      DEMOGRP 65B535B7      65B535B7 DEMOGRP
OISA0020 PROGRAM      DEMOGRP 8F33E8D5      8F33E8D5 DEMOGRP
  
```

zFS support

Problem

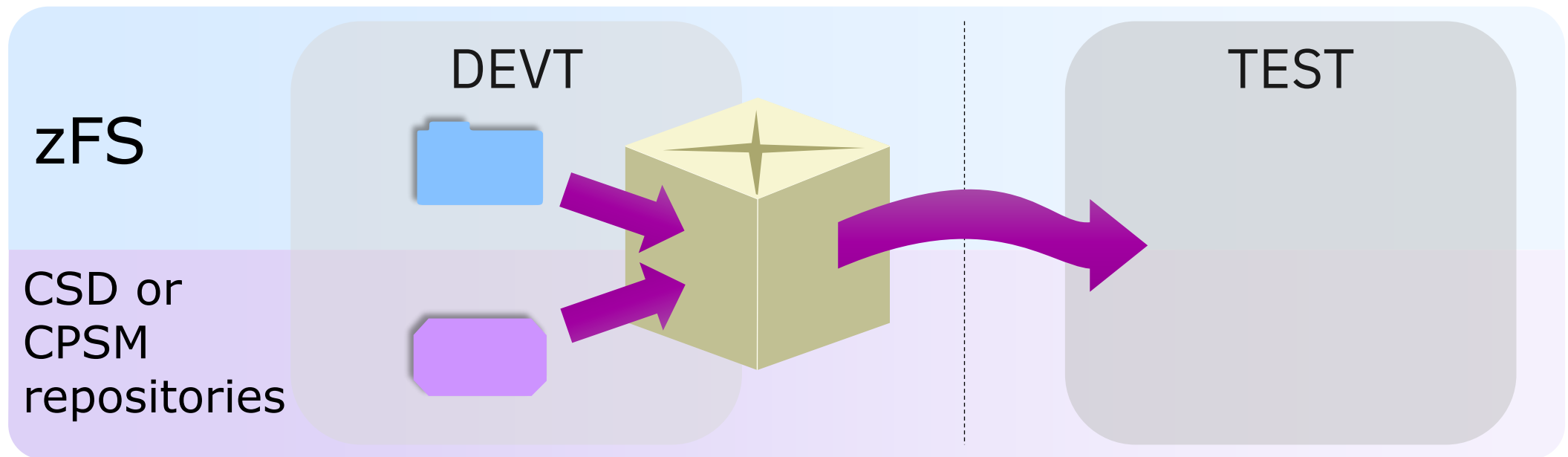
- Some CICS resource definitions have related zFS files, for example bundles and WebService WSDL files.
- **I need configuration control over these too.**



zFS support

Solution

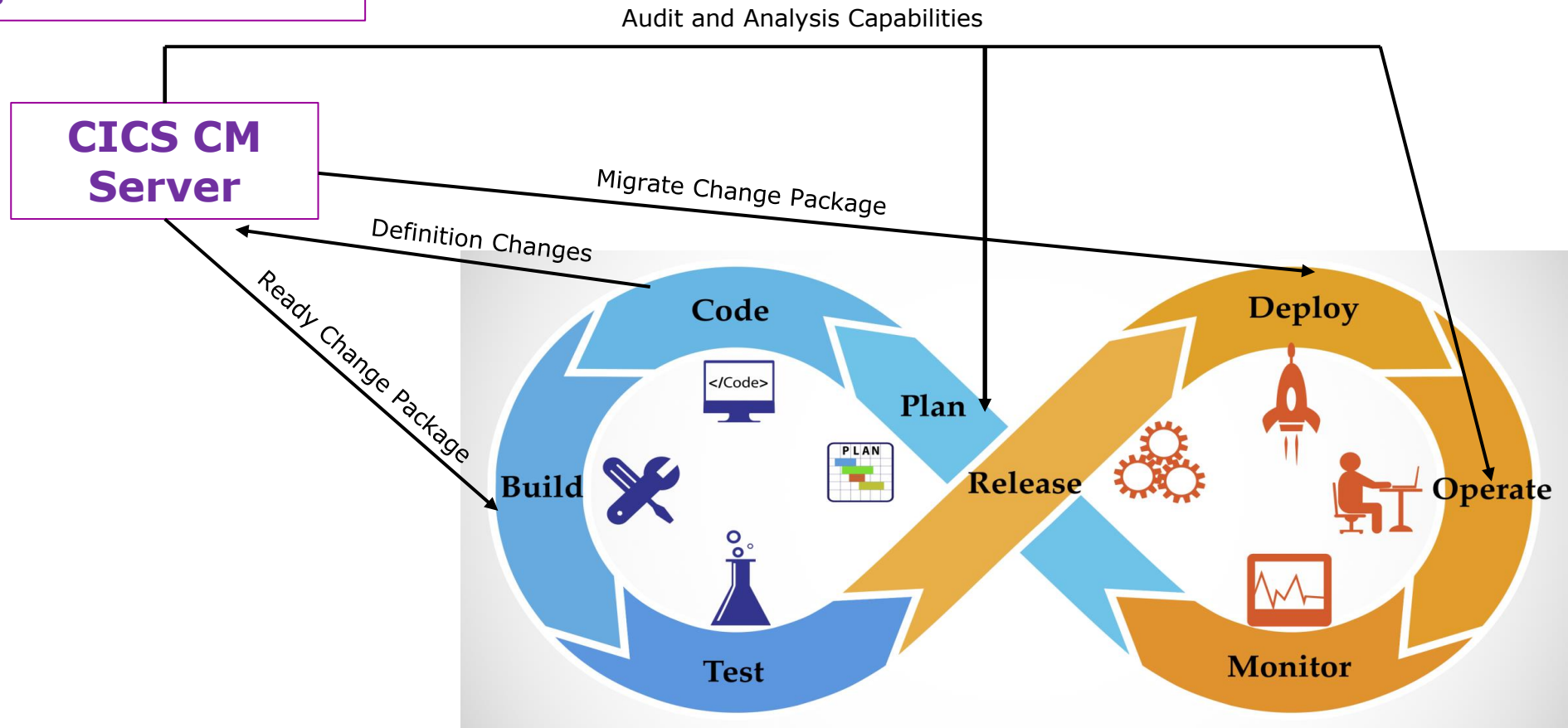
- Define 'ZFSFILE' resource definitions that refer to zFS files or directories. Then migrate or copy the ZFSFILES to the desired CICS configuration along with the related CICS resources.



CICS CM in the DevOps Pipeline

CICS Application

- Code Changes
- **Resource Definition Changes**



Summary

- DevOps for Traditional CICS Applications
- Why CICS CM is useful
- Editing CSD files
- Delegating responsibilities
- Migrating resource changes
- Changes across LPAR boundaries
- Backout
- Audit compliance
- Cleanup and analysis
- Comparisons and exception analysis
- zFS Support
- DevOps incorporating CICS CM

Thank you.

rocketsoftware.com

zconciierge@rocketsoftware.com



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