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EFFICIENT MANAGEMENT OF ONLINE RESOURCES USING CICS CONFIGURATION MANAGER

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Rocket Software
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10:30 Central Standard Time, 16:30 GMT

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Cold start analysis

zFS support

DFHCSDUP audit collection

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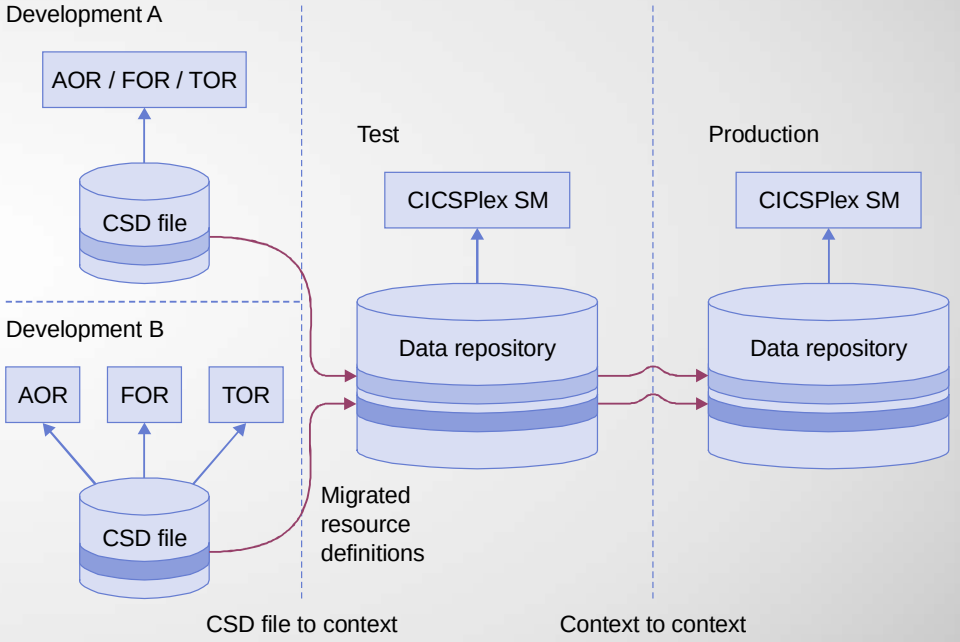
WHY THE NEED FOR CICS CM

- 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



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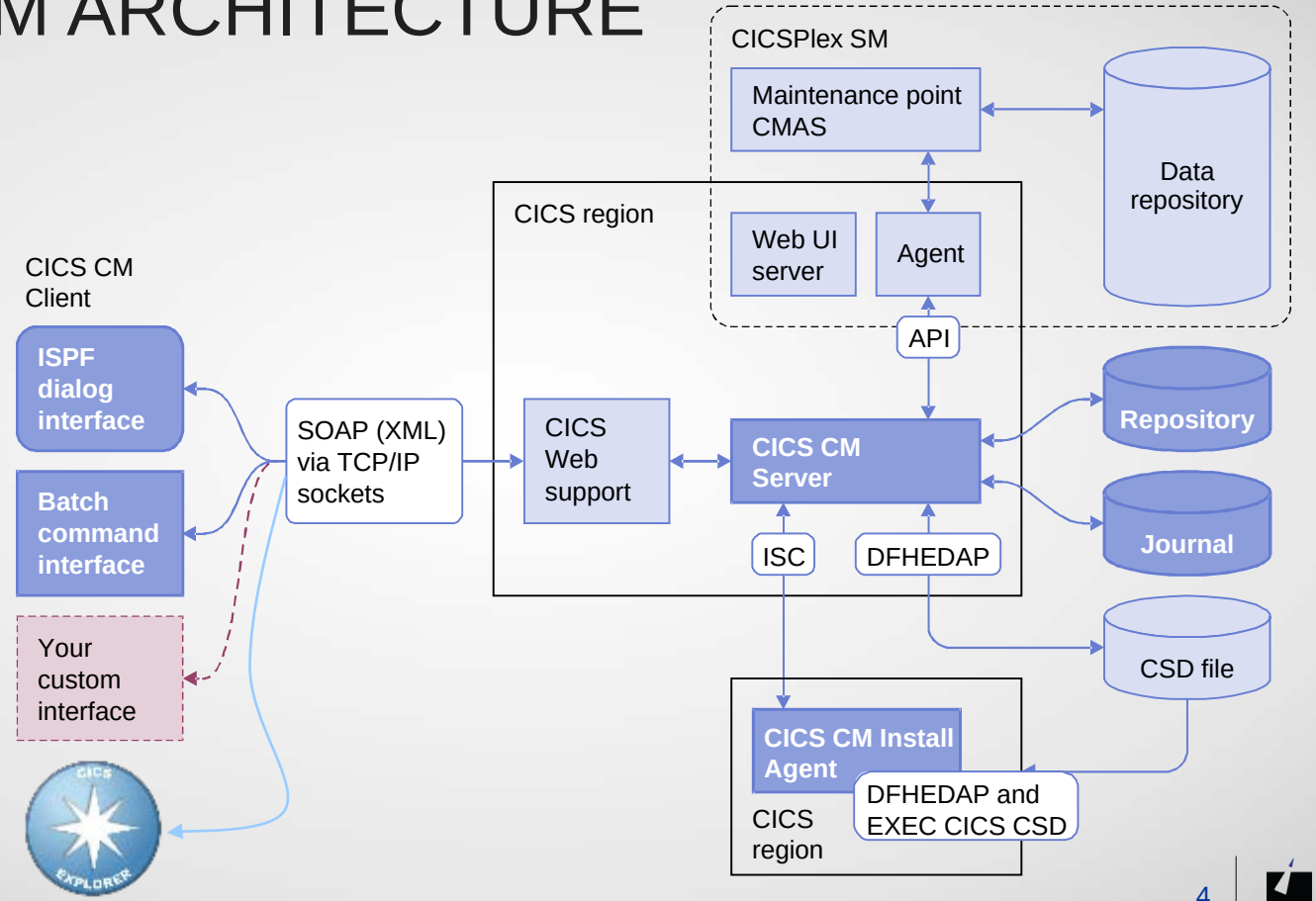
CICS CM ARCHITECTURE



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CICS ADMINISTRATION PROBLEMS AND SOLUTIONS

Sample use cases

- Editing CSD files
- Working with CSD files and CPSM BAS repository
- Migrating changes between environments
- Delegating and approving changes
- Changes across LPAR boundaries
- Backout
- Audit compliance
- Clean-up and analysis
- Comparisons and exception analysis
- Cold start analysis
- Control of related zFS files
- Audit of DFHCSDUP changes

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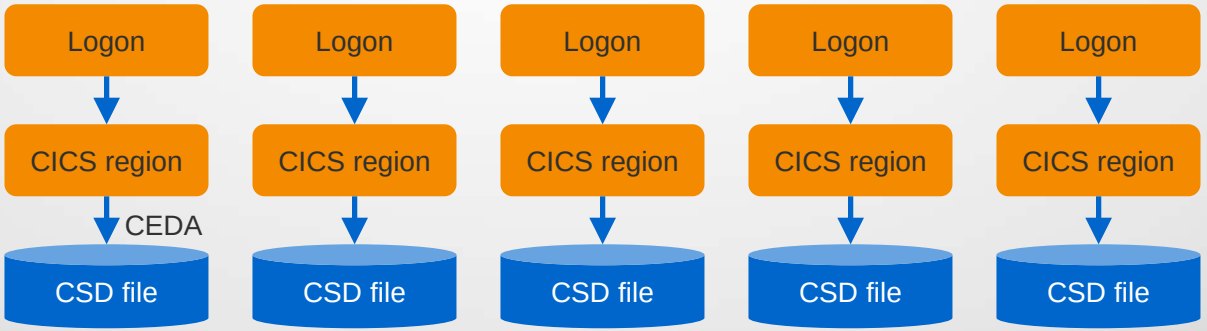
EDITING CSD FILES

Problem

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



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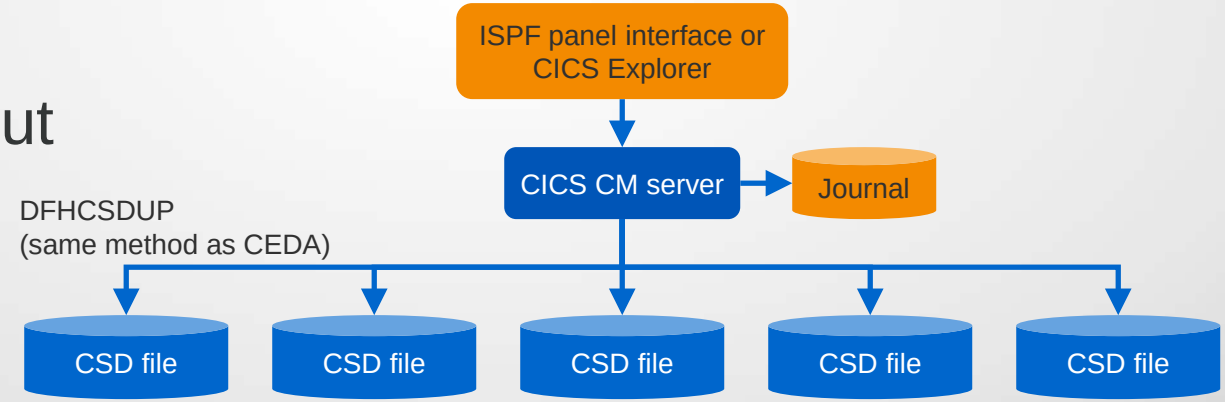
EDITING CSD FILES

Solution

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



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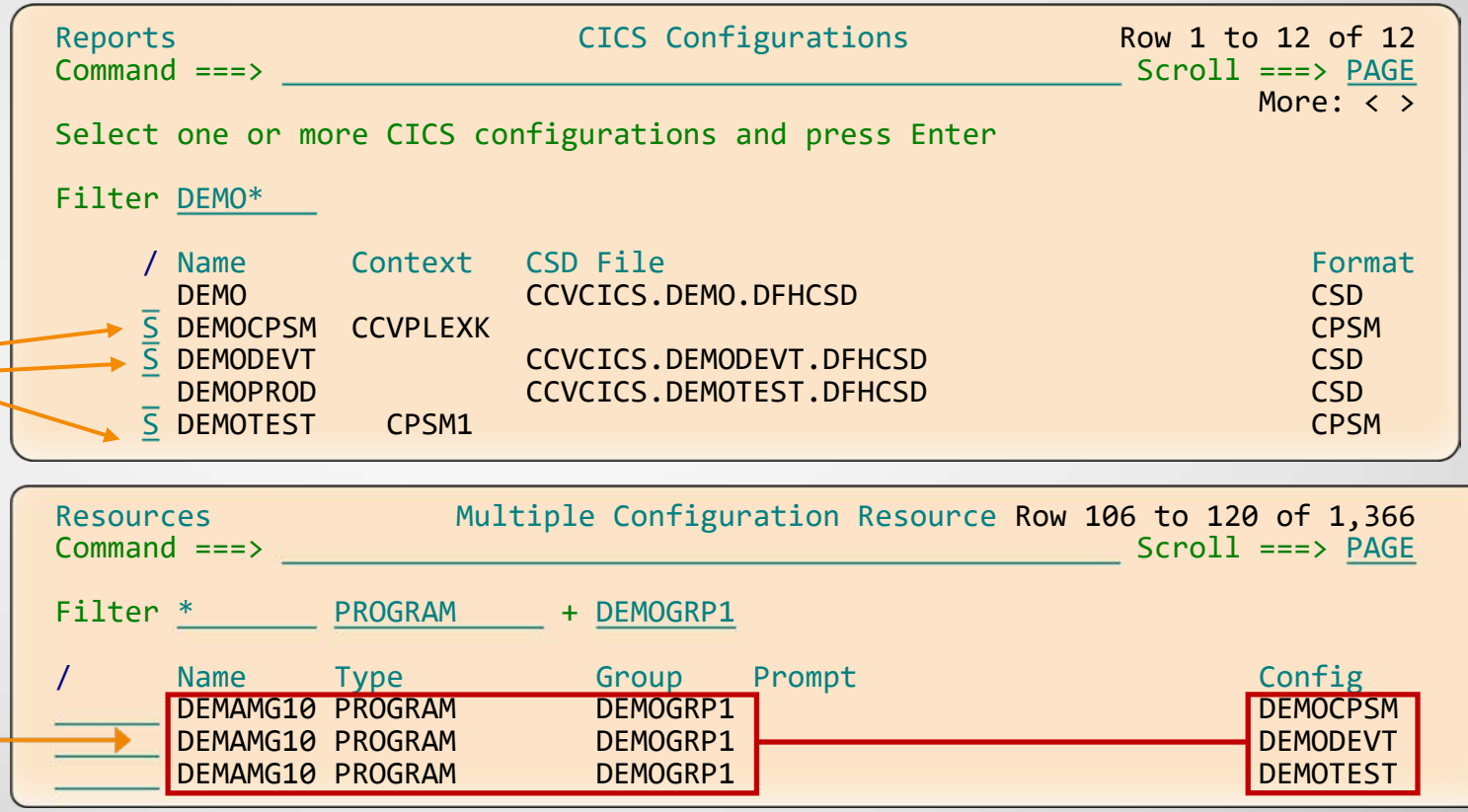
EDITING CSD FILES

Solution

Menu option 4.1, **Reports > Multiple Configs**



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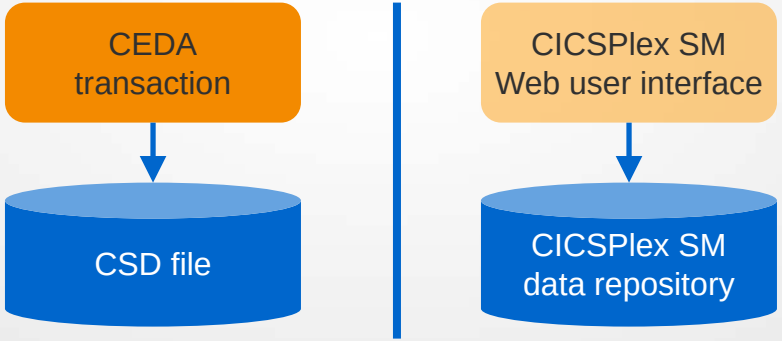
WORKING WITH CSD FILES AND CPSM BAS REPOSITORY

Problem

- Different interfaces: CEDA or CPSM WUI
- No method for moving from CPSM repository to CSD file



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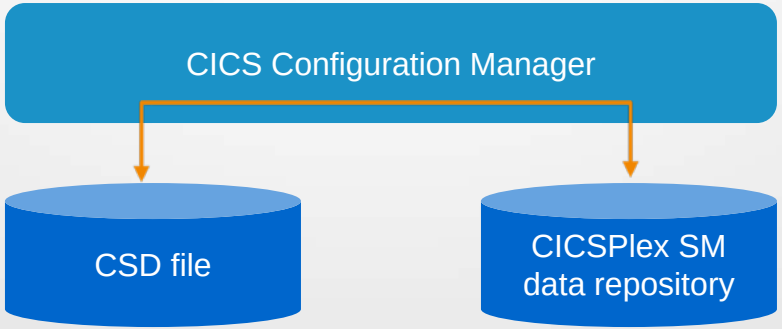
WORKING WITH CSD FILES AND CPSM BAS REPOSITORY

Solution

- Single user interface
- Seamless across CSD files and CPSM repositories
- Copy resource definitions in either direction



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SUPPORT FOR CPSM RESOURCES

Solution

- you can define and work with CICSPlex SM resource definitions
  - WLMDEFs (WLMSPEC WLMGROUP WLMDEF TRANGRP LNKSWSCS LNKSWSCG WLMINSPC WLMINGRP DTRINGRP)
  - topologies (CSYSDEF CSYSGRP PERIODEF CSGLCGCS CSGLCGCG)
  - package (via P line action)
  - transform (via ISPF option 1.5)

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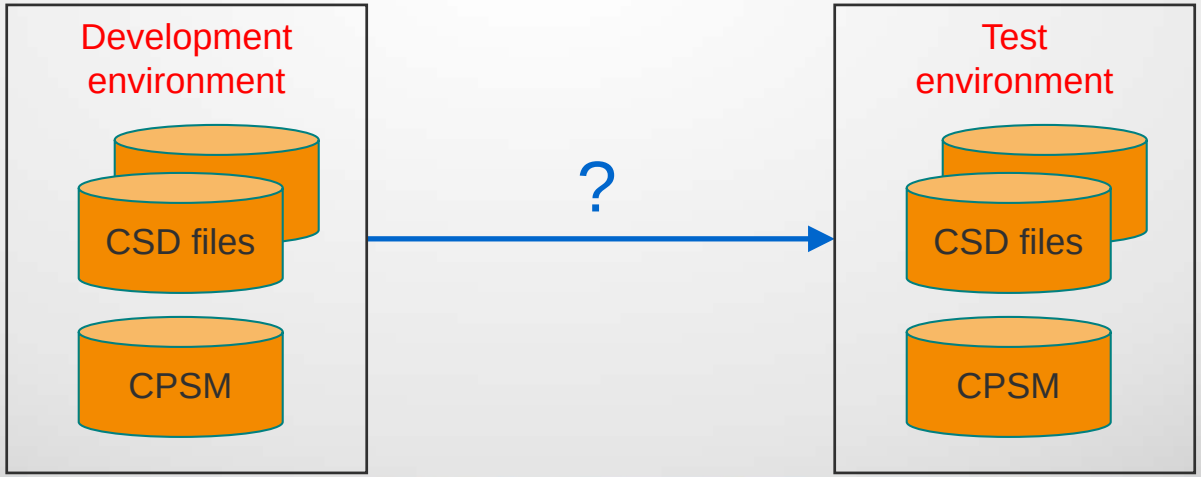
MIGRATING CHANGES BETWEEN ENVIRONMENTS

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



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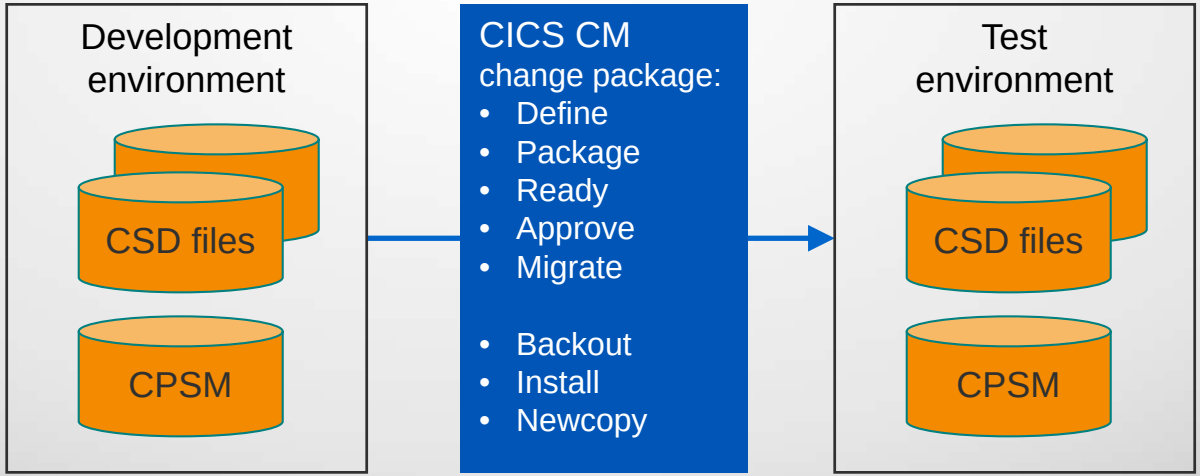
MIGRATING CHANGES BETWEEN ENVIRONMENTS

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



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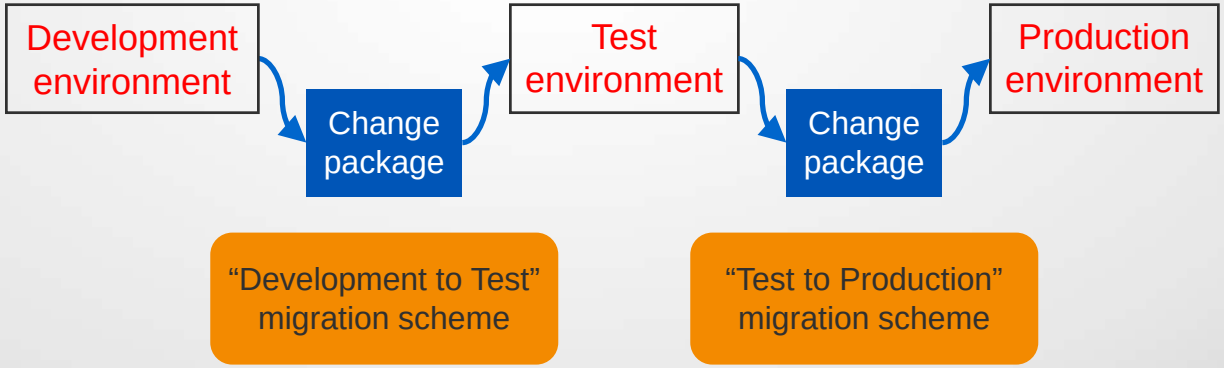
MIGRATING CHANGES BETWEEN ENVIRONMENTS

Solution

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



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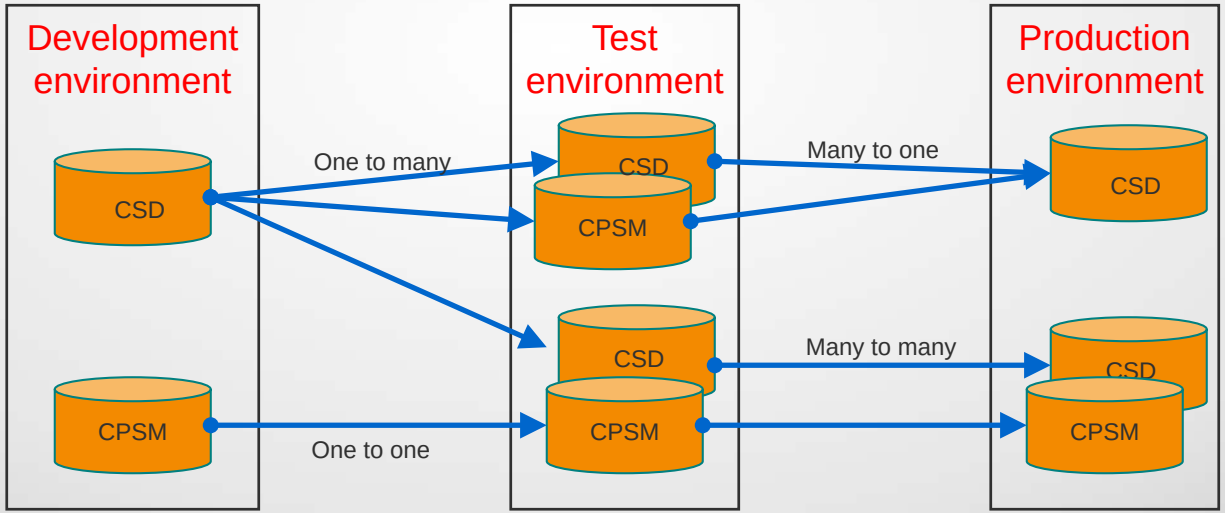
MIGRATING CHANGES BETWEEN ENVIRONMENTS

Solution

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



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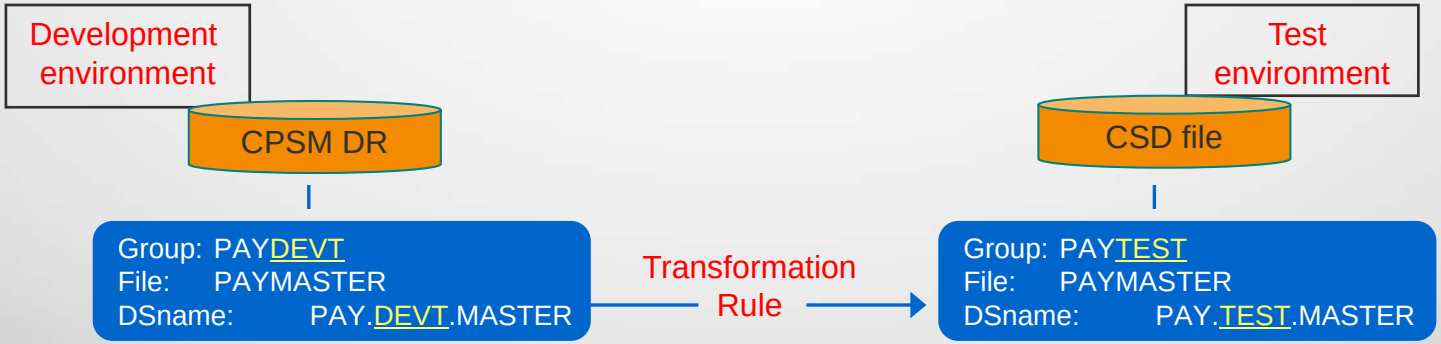
MIGRATING CHANGES BETWEEN ENVIRONMENTS

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 DSNAME *DEVT* to *TEST*)
  - Qualification criteria may be specified



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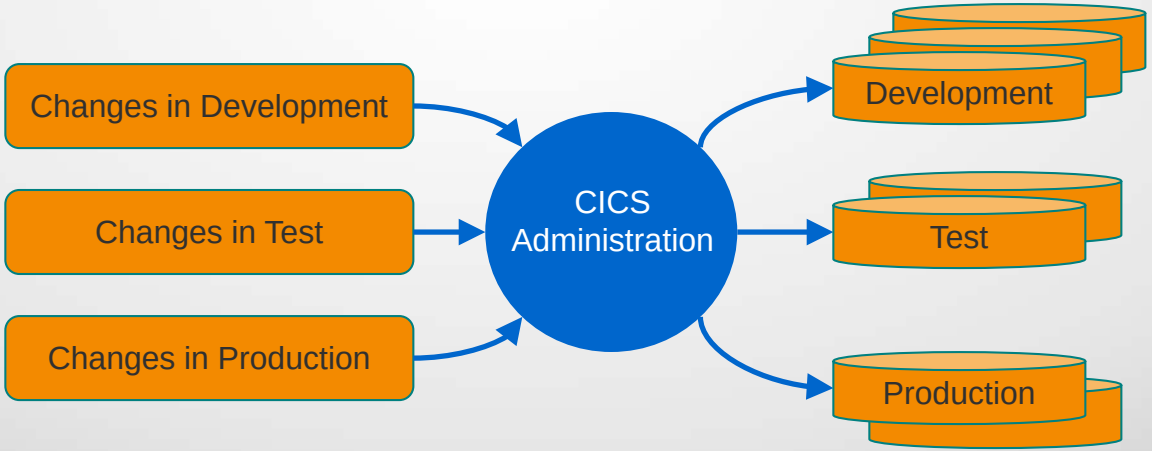
DELEGATING RESPONSIBILITIES

Problem

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



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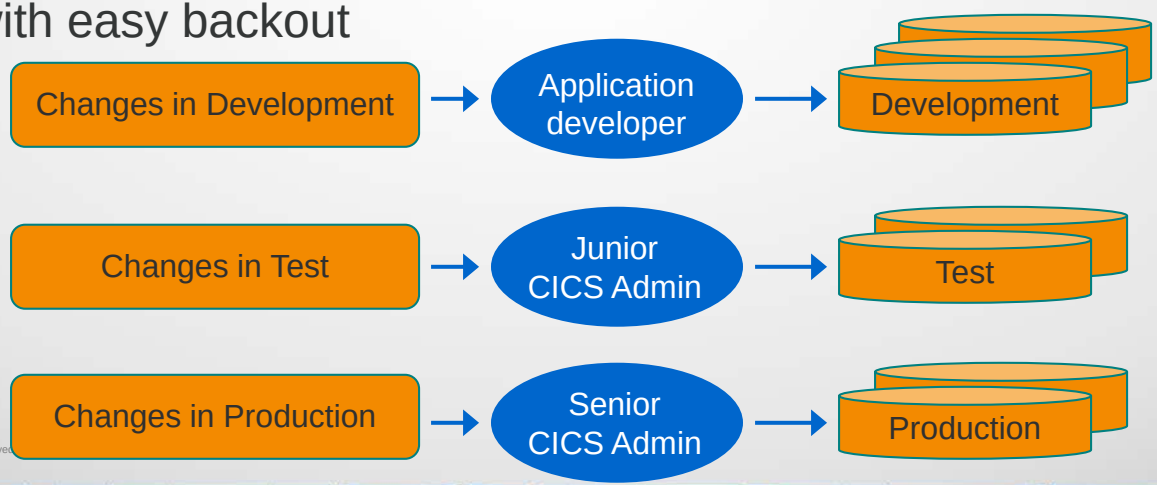
DELEGATING RESPONSIBILITIES

Solution

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



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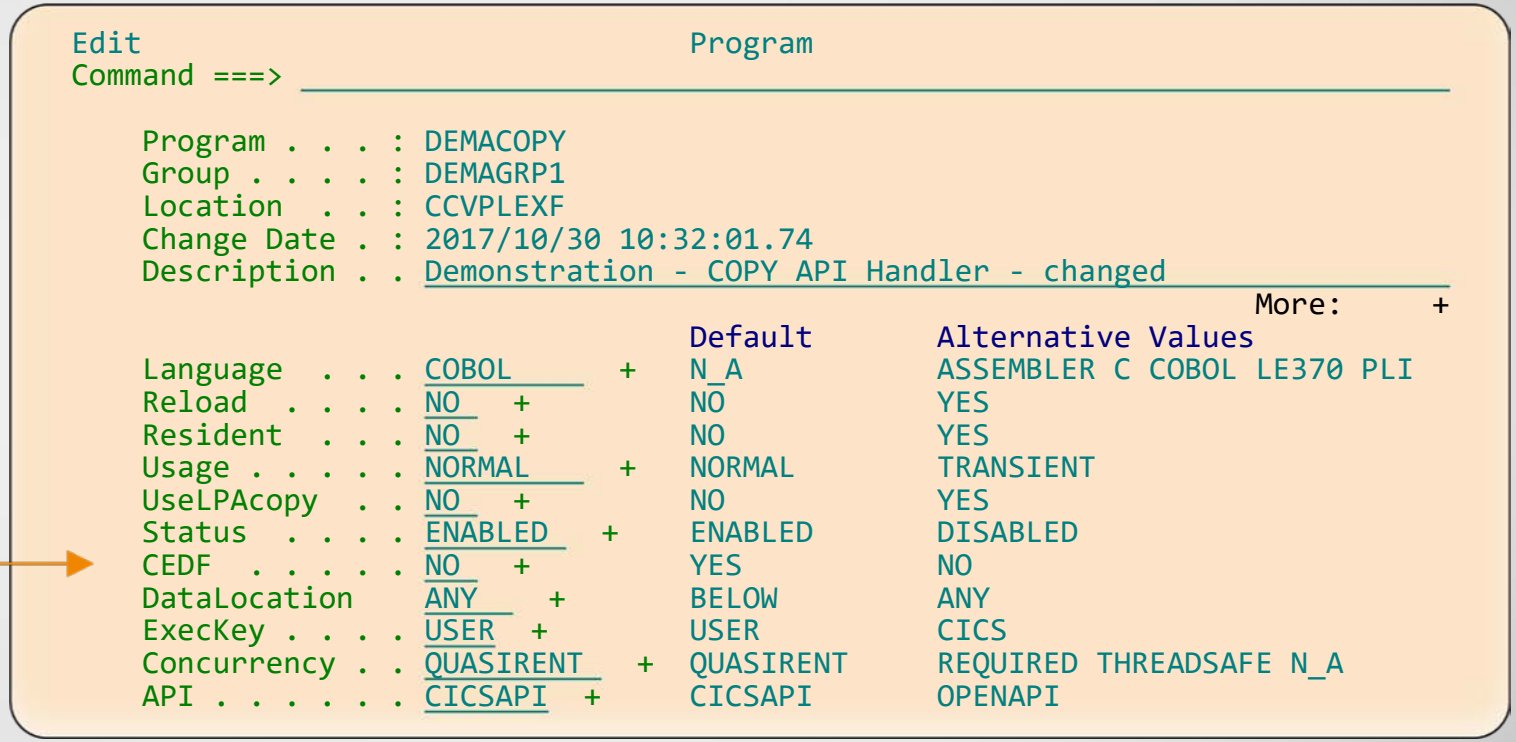
DELEGATING RESPONSIBILITIES

Solution



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

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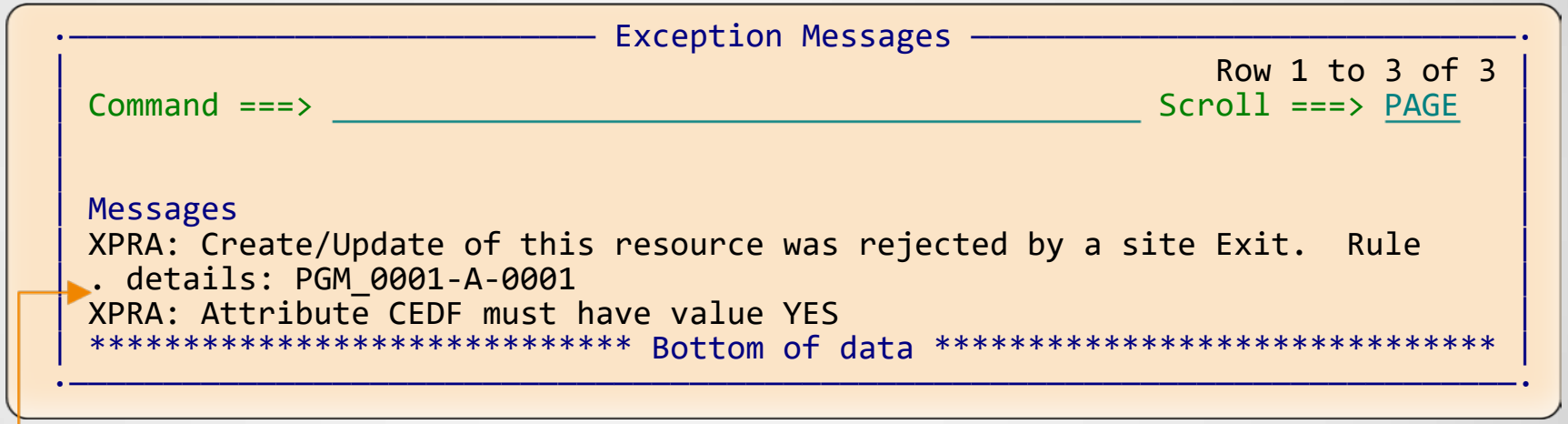
DELEGATING RESPONSIBILITIES

Solution



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

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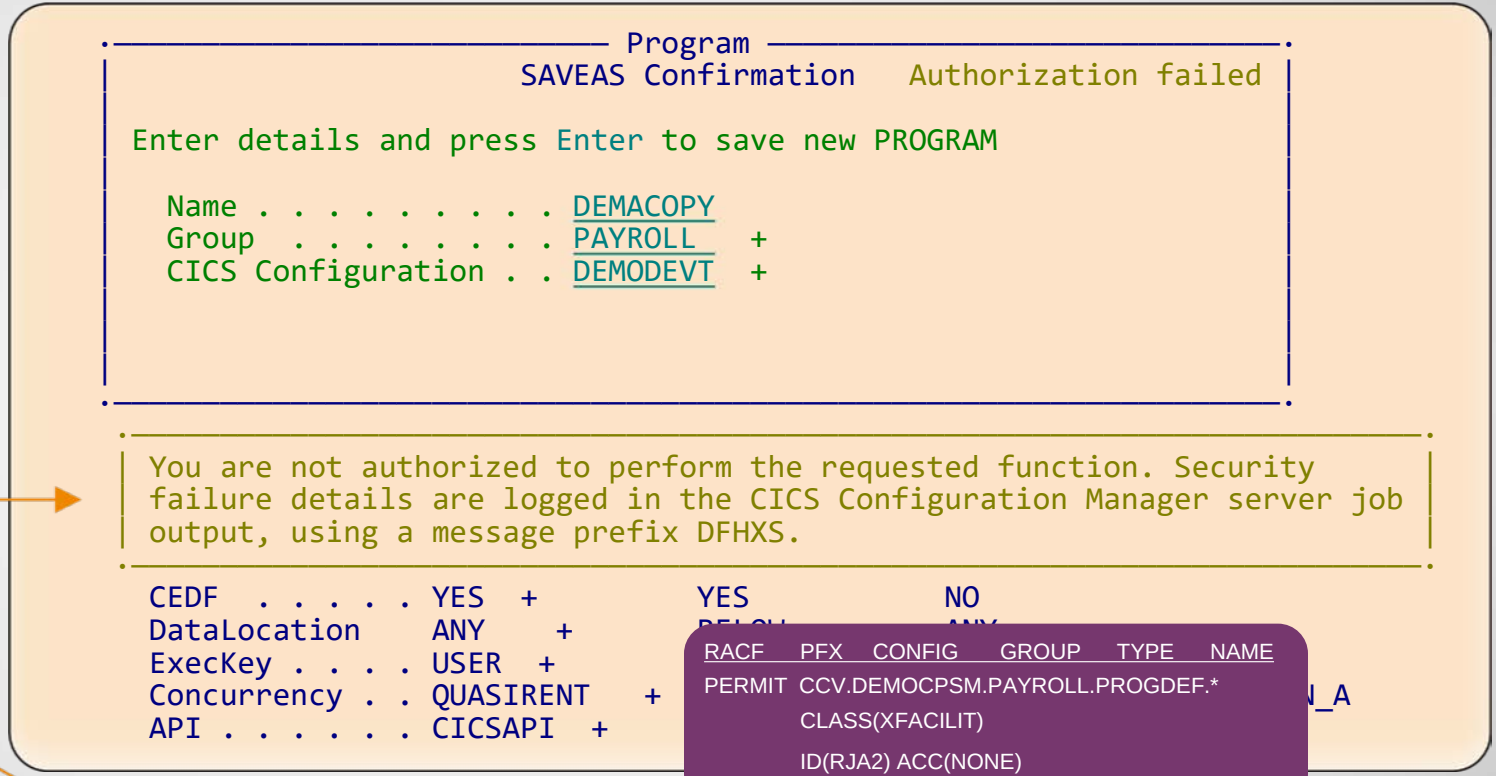
DELEGATING RESPONSIBILITIES

Solution



Secure definitions by repository, Group, Type and Name

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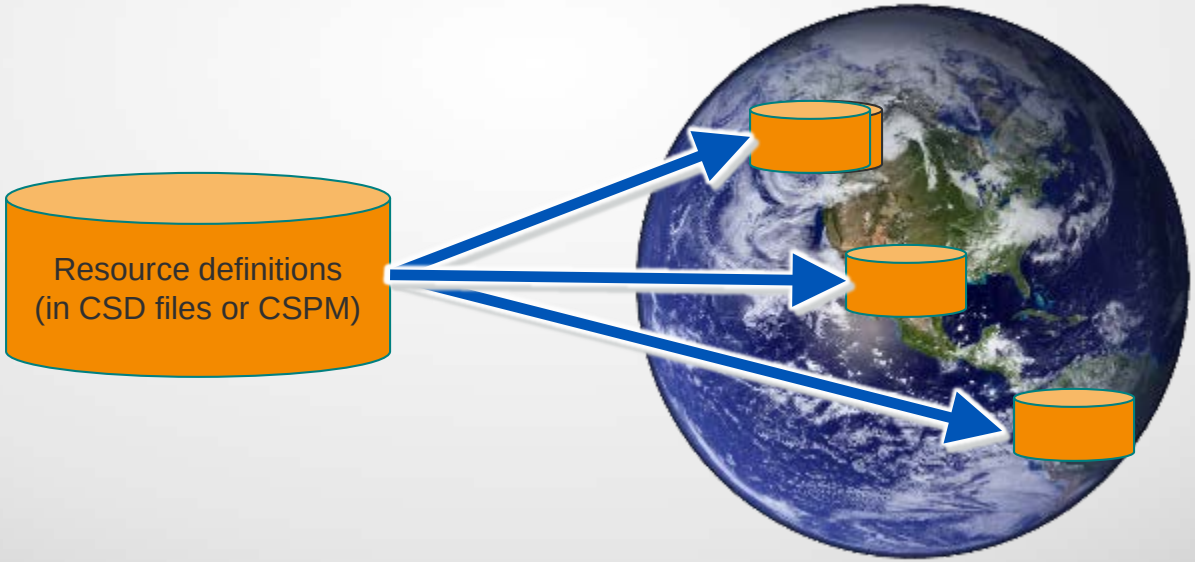
CHANGES ACROSS LPAR BOUNDARIES

Problem

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



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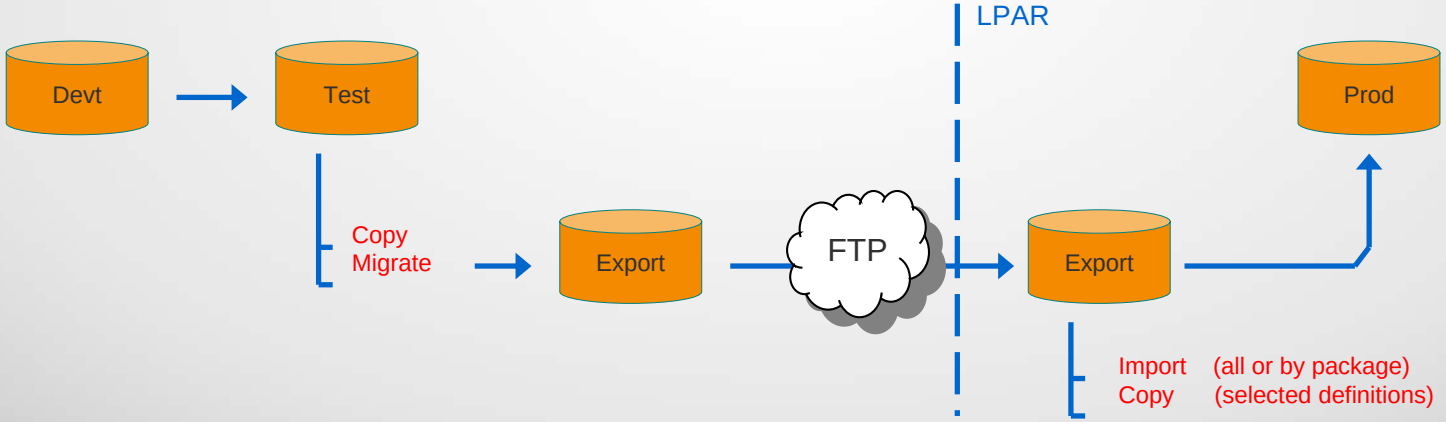
CHANGES ACROSS LPAR BOUNDARIES

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



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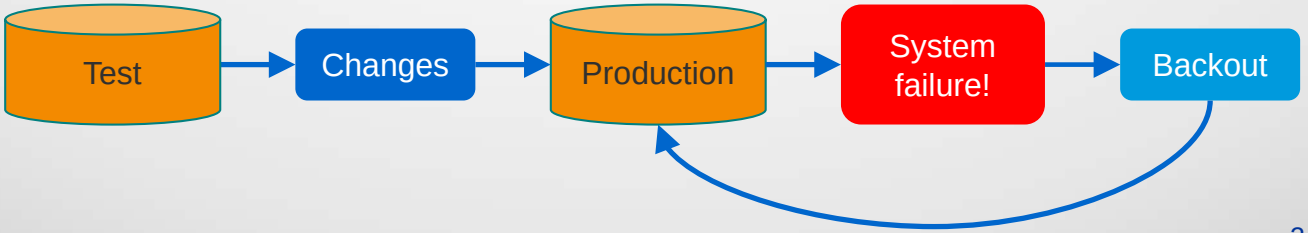
BACKOUT

Solution

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



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AUDIT COMPLIANCE

Problem

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

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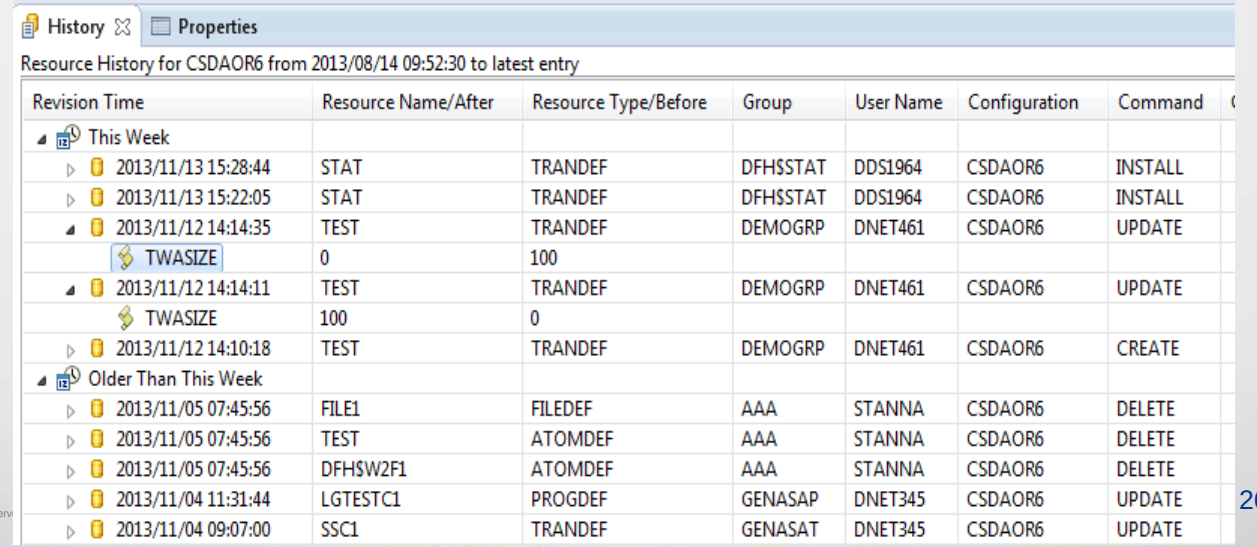
AUDIT COMPLIANCE

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	100				
2013/11/12 14:14:11	TEST	TRANDEF	DEMOGRP	DNET461	CSDAOR6	UPDATE
TWASIZE	100	0				
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

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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  . . . :
```

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CLEANUP AND ANALYSIS

Problem

- 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)

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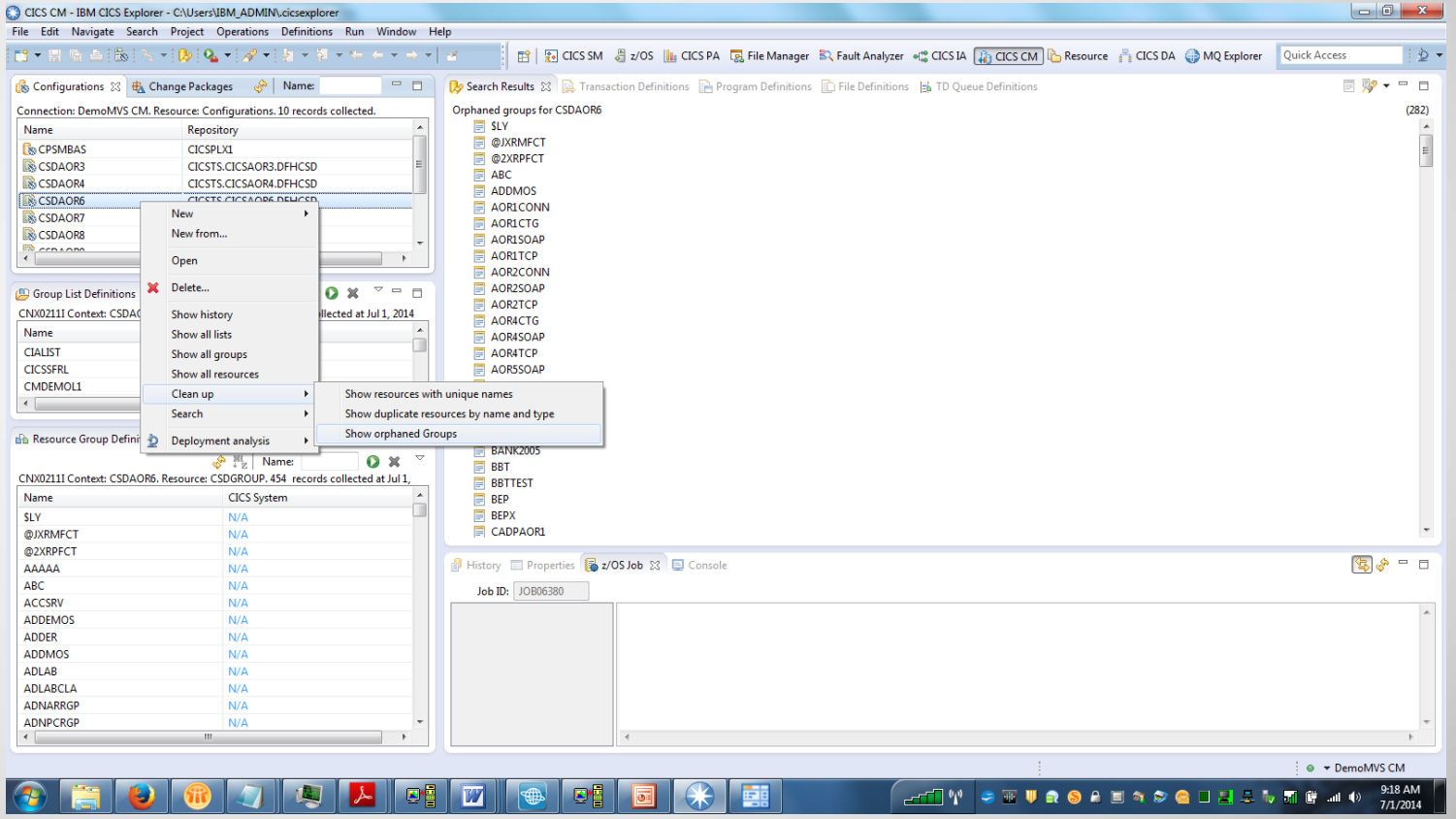
CLEANUP AND ANALYSIS

Solution



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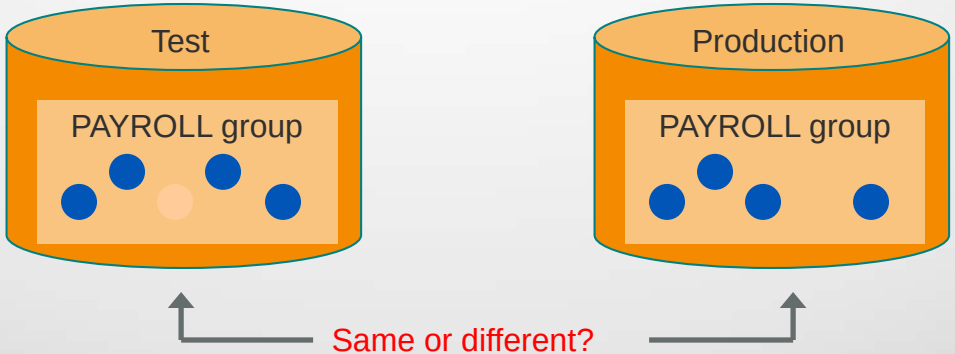
COMPARISONS AND EXCEPTION ANALYSIS

Problem

- Is Group(PAYROLL) the same in TEST and PRODUCTION?
- What definitions are missing?
- What definitions are different?
- Are the FILEs the same, except for DSNAME?
- How can I compare two resource definitions?



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COMPARISONS AND EXCEPTION ANALYSIS

Solution

- 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

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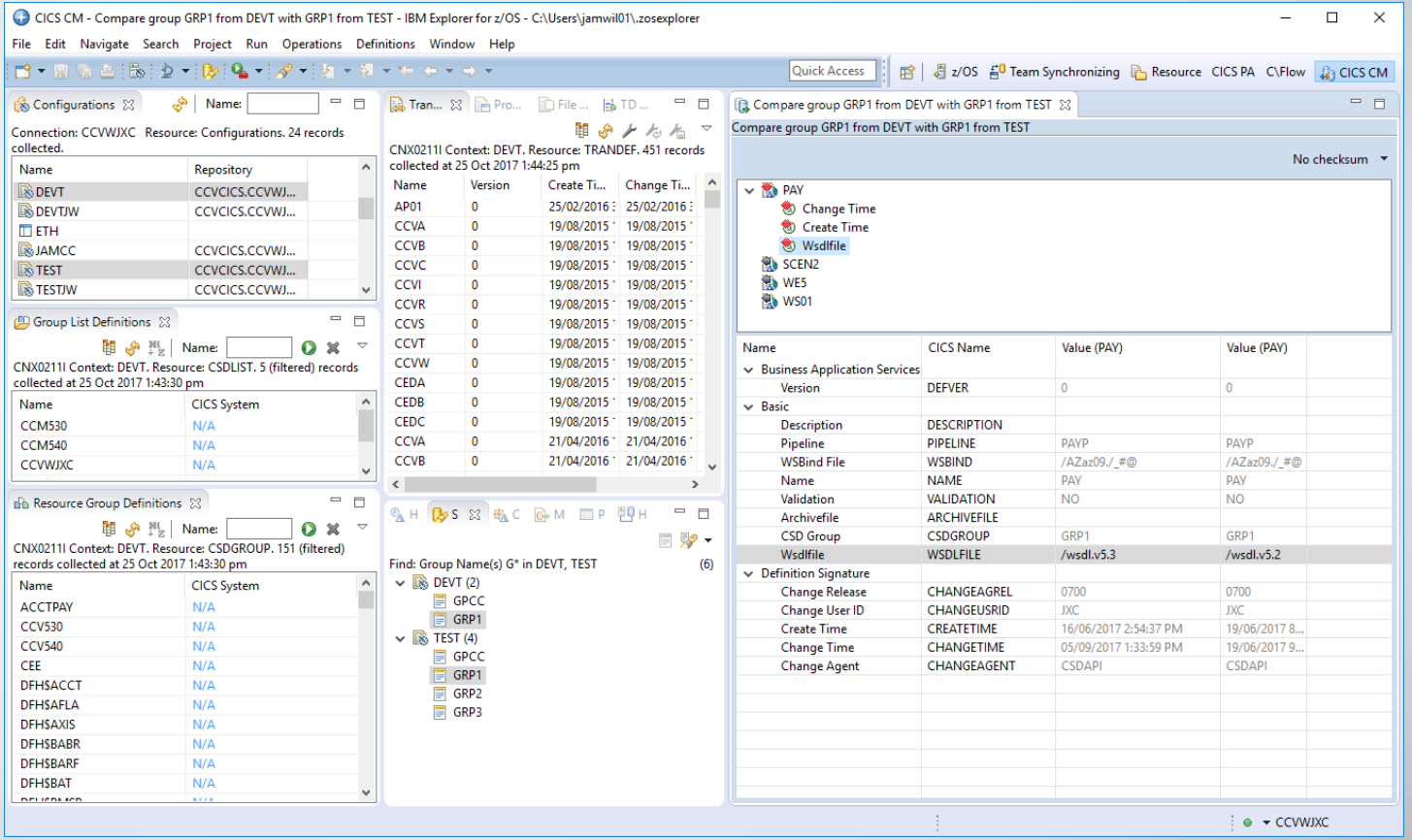
COMPARISONS AND EXCEPTION ANALYSIS

Solution



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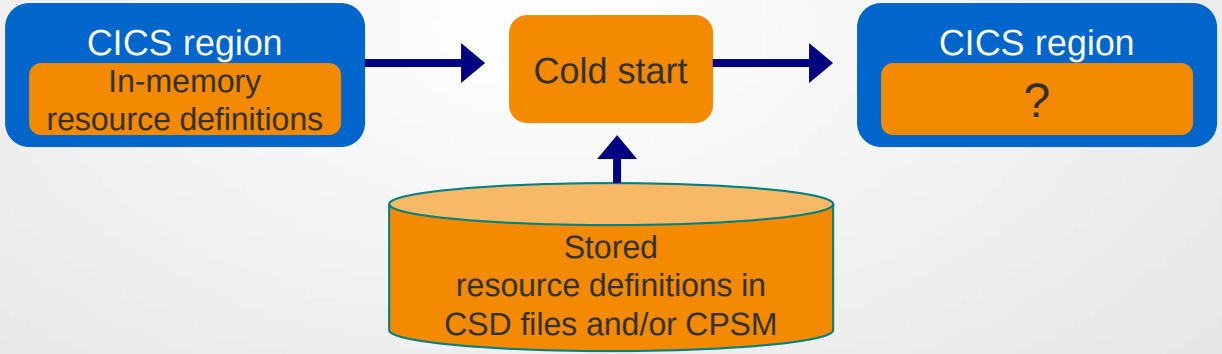
COLD START ANALYSIS

Problem

- What will change at the next Cold Start?



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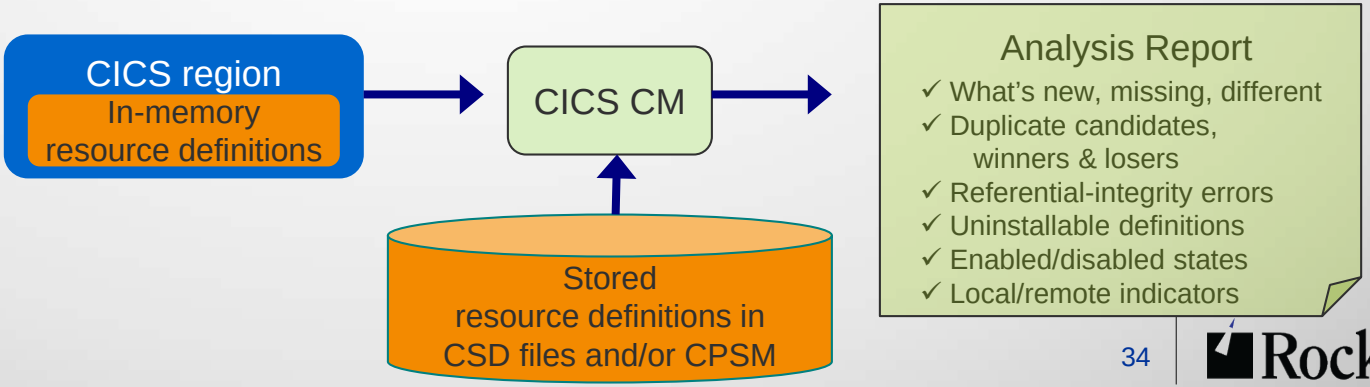
COLD START ANALYSIS

Solution

- Immediate analysis – no need to stop/start CICS regions
- Supports CSD, CPSM, or CSD/CPSM hybrid models
- Understands ‘order-sequence’ processing and RASGNDEF overrides
- Provides filtering for auto-install, dynamic resources, known conditions
- Reports …



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COLD START ANALYSIS

Solution

```
                    CICS Deployment Analysis Report
                       Cold Start Compare Report
                          Missing Definitions

Report                                  List or                          Loc        Deploy   Collection
Item    ID Name      Type    Group     RESDESC  Code Condition          Rem Ena VV Checksum Type
------ -- -------- ------ -------- -------- ---- ------------------ --- --- -- -------- -----------
     7 01 CCVR0001 FILE    CCVSRCSD N/A      0200 Missing            LOC UNE    A028B276 RUNTIME-CCM
     8 01 CCVR0002 FILE    CCVSRCSD N/A      0200 Missing            LOC UNE    CDC28071 RUNTIME-CCM
```

Missing

```
                    CICS Deployment Analysis Report
                       Cold Start Compare Report
                        Mismatched Definitions

Report                                  List or                          Loc        Deploy   Collection
Item    ID Name      Type          Group    RESDESC  Code Condition          Rem Ena VV Checksum Type
------ -- -------- ------------ -------- -------- ---- ------------------ --- --- -- -------- --------------
    98 01 T31M      CONNECTION                      0300 Checksum Mismatch LOC ENA    5136F694 REGION-CCM
         Attribute:  ACCESSMETHOD     Value:  IRC
    99 02 T31M      CONNECTION   CCVLINKS  CCVT22M 0300 Checksum Mismatch LOC ENA    E709BDAA CANDIDATES-CSD
         Attribute:  ACCESSMETHOD     Value:  XM
```

Different

```
                    CICS Deployment Analysis Report
                       Cold Start Compare Report
                  Referential Integrity Verification

Report                                  List or                          Loc        Deploy   Collection
Item    ID Name      Type          Group    RESDESC  Code Condition          Rem Ena VV Checksum Type
------ -- -------- ------------ -------- -------- ---- ------------------ --- --- -- -------- --------------
   148 02 CCVBACK   FILE          CCV540   CCM540   0951 CCV5451W           LOC ENA    4FE7F1CF CANDIDATES-CSD
            Attribute:  LSRPOOLID     Value:  1
```

RI errors

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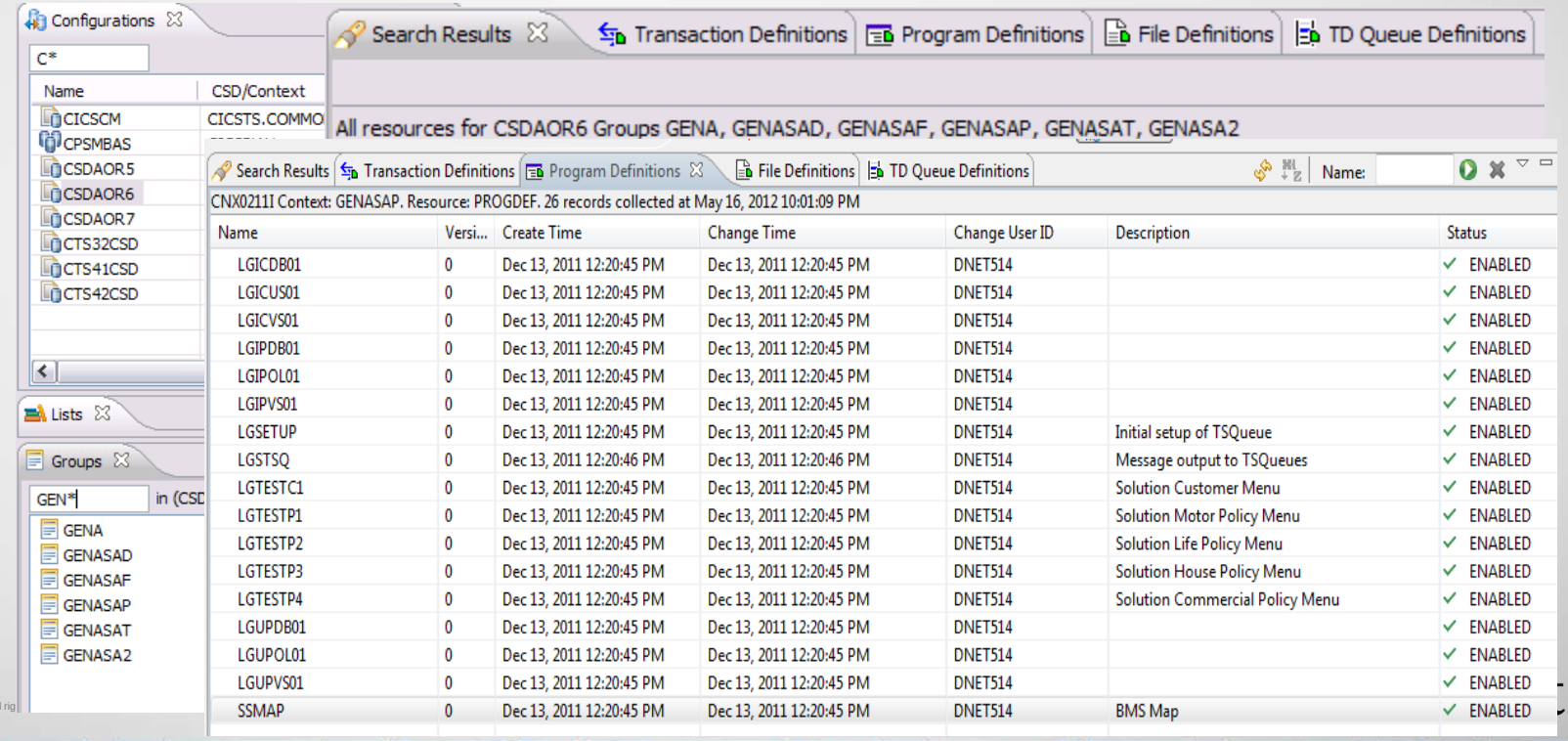
SINGLE POINT OF CONTROL OVER RESOURCE DEFINITIONS

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



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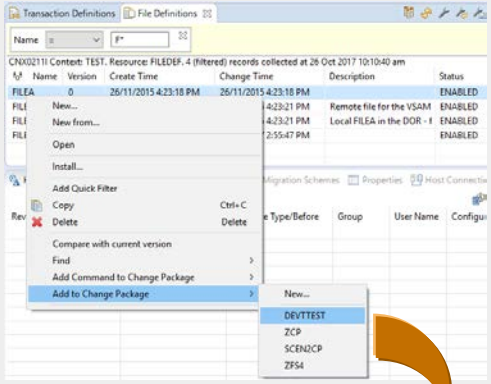
CICS CM – CICS RESOURCE DEFINITION LIFECYCLE MANAGEMENT

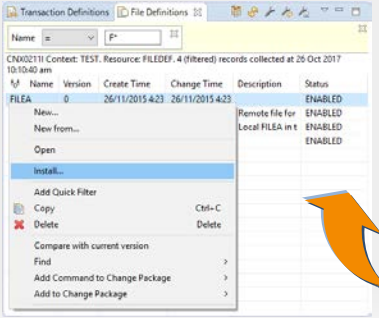
Benefits

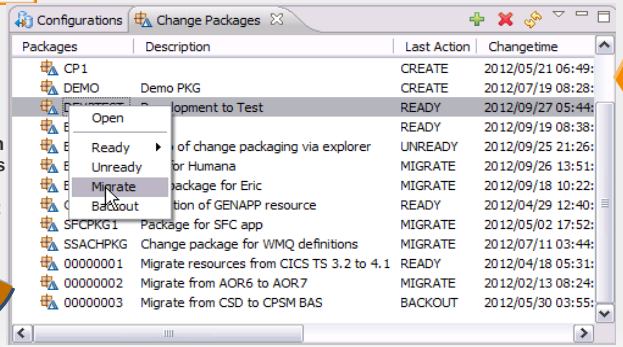
- Eliminate manual and error prone processes
- Full audit trail and backout capability
- Integrate with source code change management processes

Change package created for resources in Development repository



Install definitions in CICS regions on test environment





Change package migrated to Test environment

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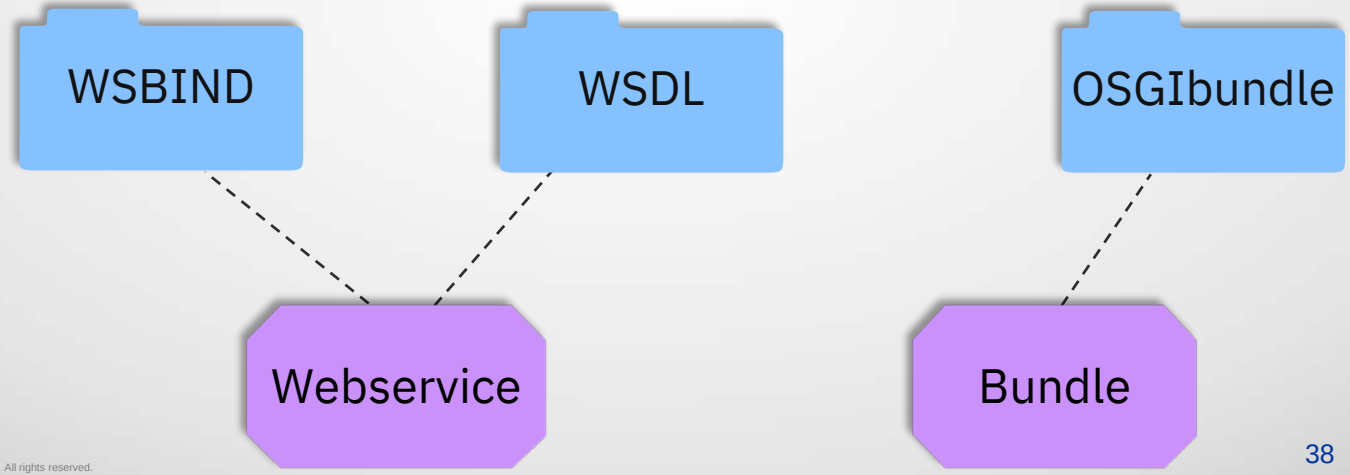
ZFS SUPPORT

Problem

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



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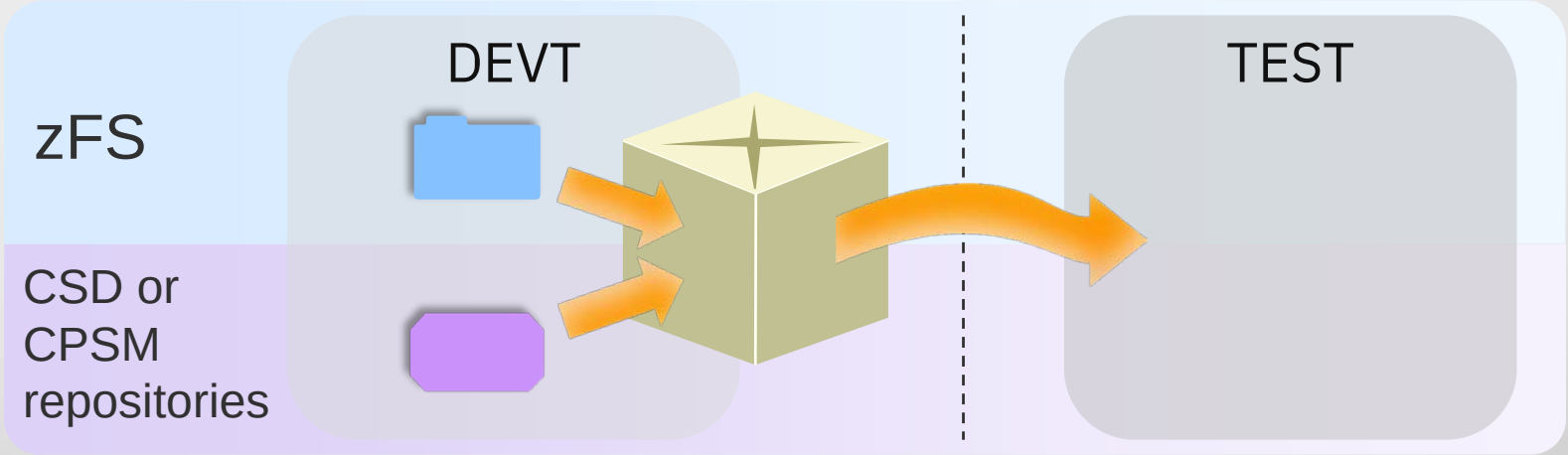
ZFS SUPPORT

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.



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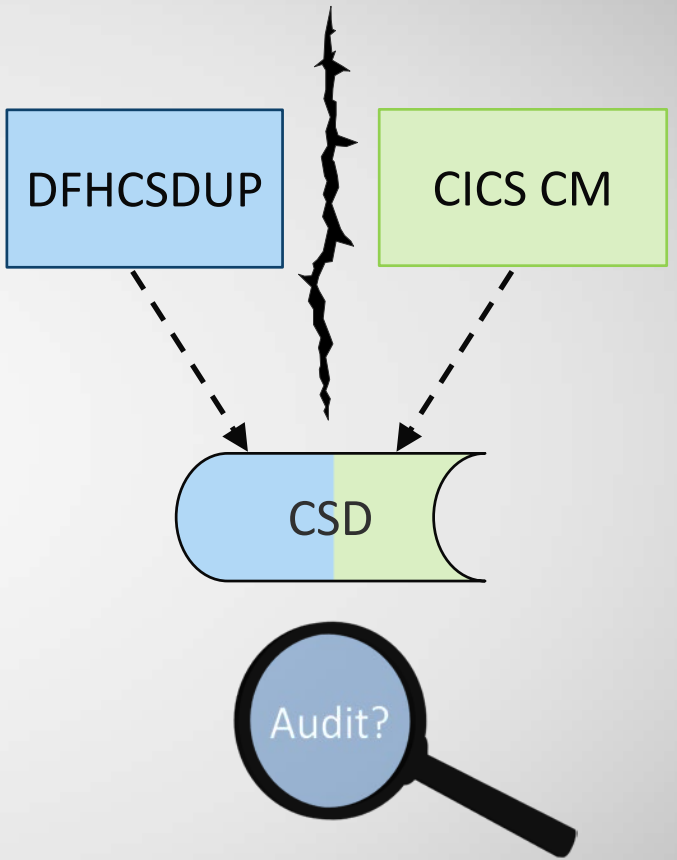
DFHCSDUP AUDIT COLLECTION

Problem

- Sometimes, we need to make emergency changes to CICS resources using DFHCSDUP. These changes aren't tracked by CICS CM, so there is nowhere where you can see an audit record of both the CICS CM and the DFHCSDUP changes.

- **I need to track all changes to the CSD.**



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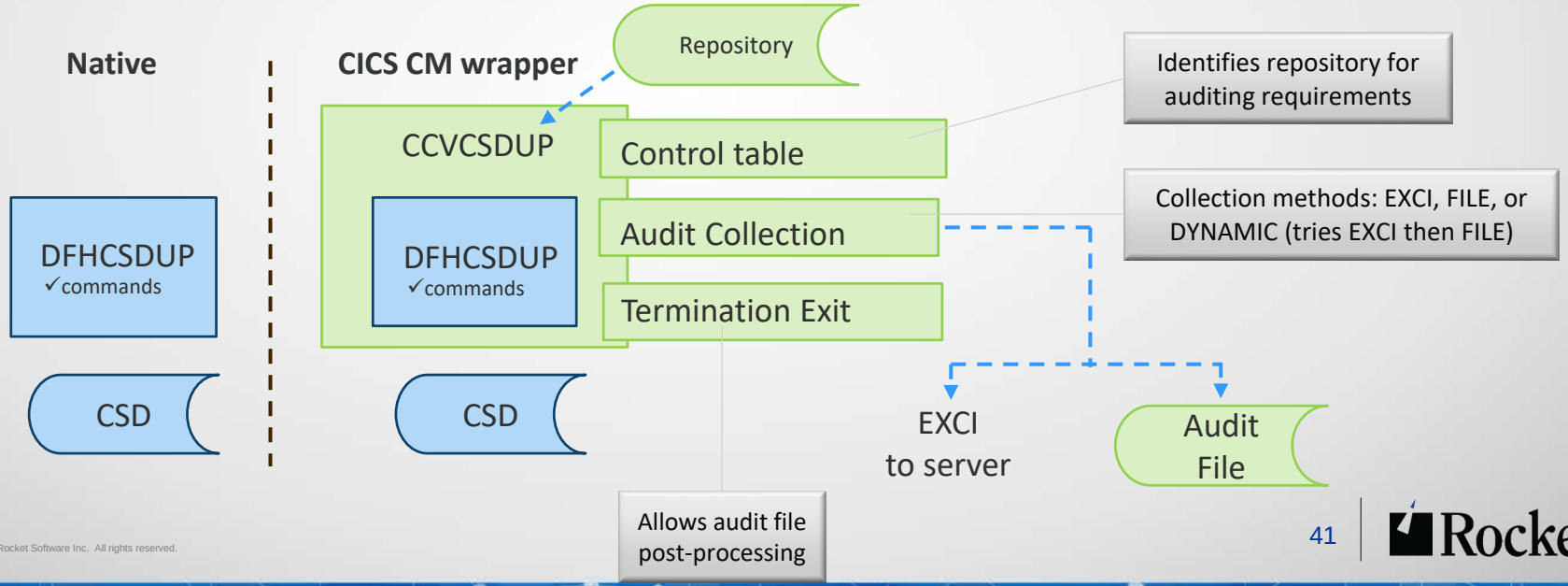
DFHCSDUP AUDIT COLLECTION

Solution

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



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SUMMARY

- Why CICS CM is useful
- Editing CSD files
- Working with CSD files and CPSM BAS repository
- Migrating changes between environments
- Delegating responsibilities
- Changes across LPAR boundaries
- Backout
- Audit compliance
- Cleanup and analysis
- Comparisons and exception analysis
- Cold start analysis
- zFS support
- DFHCSDUP audit collection

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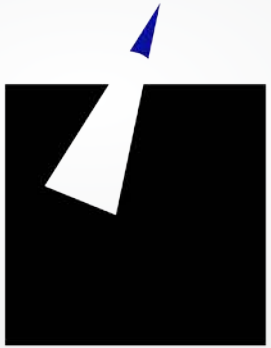
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