

Simplifying IMS Dynamic Resource Definition: A Basic Approach with Best Practices

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Agenda



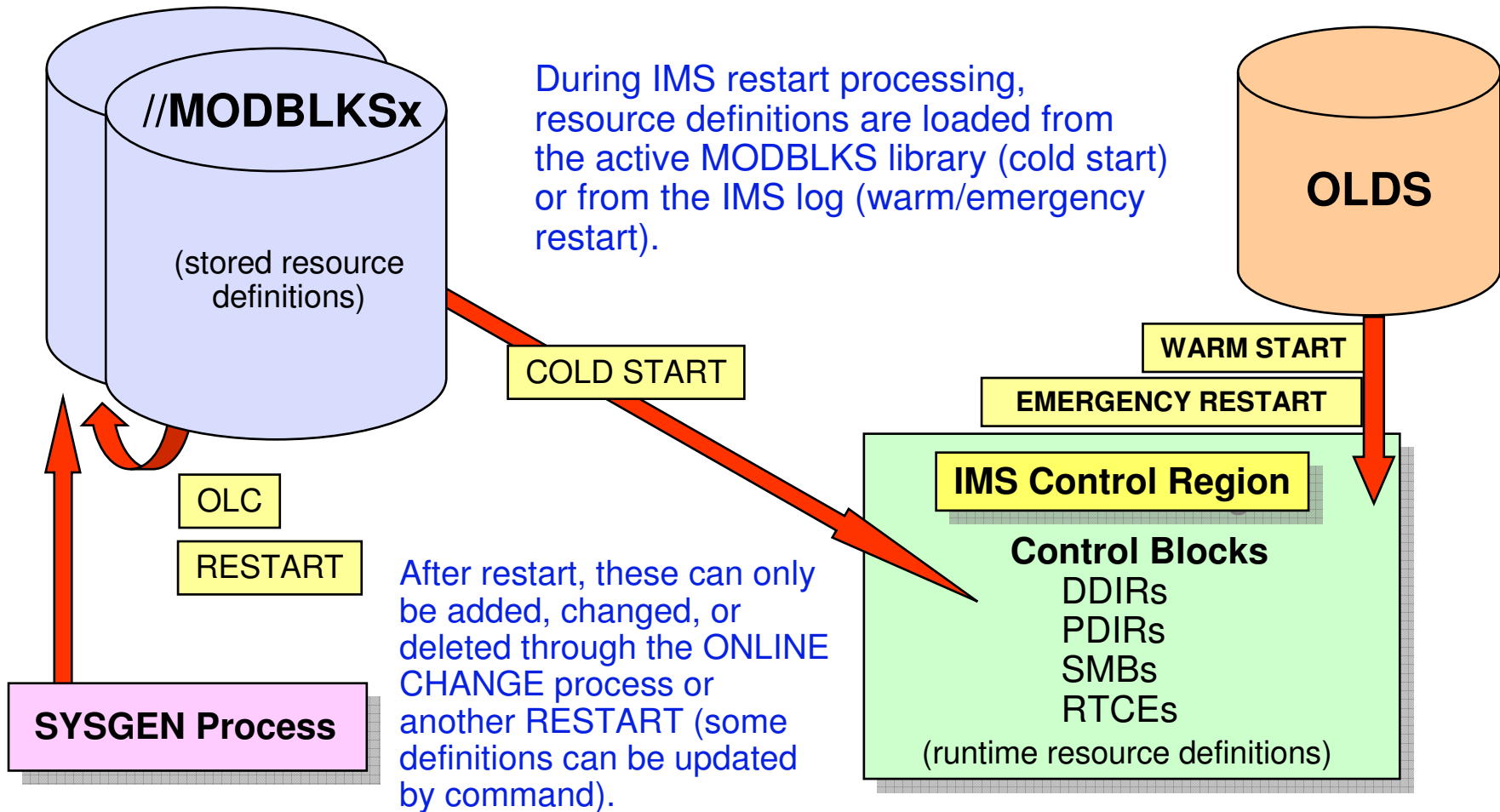
- DRD review
- Basic components of a DRD environment
 - System Resource Definition Data Set (RDDS)
 - Common Service Layer (CSL)
 - DRD-enabled IMS system(s)
 - Single Point of Control (SPOC)
- Simplified setup of DRD components
 - RDDS allocation
 - PROCLIB members
 - DFSDFxxx – IMS
 - CSLOIxxx – OM
 - CSLSIxxx – SCI
 - RDDS population
 - TSO SPOC application and DRD commands
- Best practices for migration and usage

DRD Review

DRD Review

- OBJECTIVE: Improve the availability of the IMS online environment
- Allow user to dynamically define and enable MODBLKS resource definitions
 - *Databases*
 - *Programs*
 - *Transactions*
 - *Routing Codes*
- Benefits
 - No requirement for MODBLKS SYSGEN
 - No requirement for IMS restart/MODBLKS online change
 - Limitations associated with these methods eliminated
 - Increased resource availability
- Type-2 commands: CREATE, DELETE, UPDATE, EXPORT, IMPORT

Modifying MODBLKS Resources without DRD

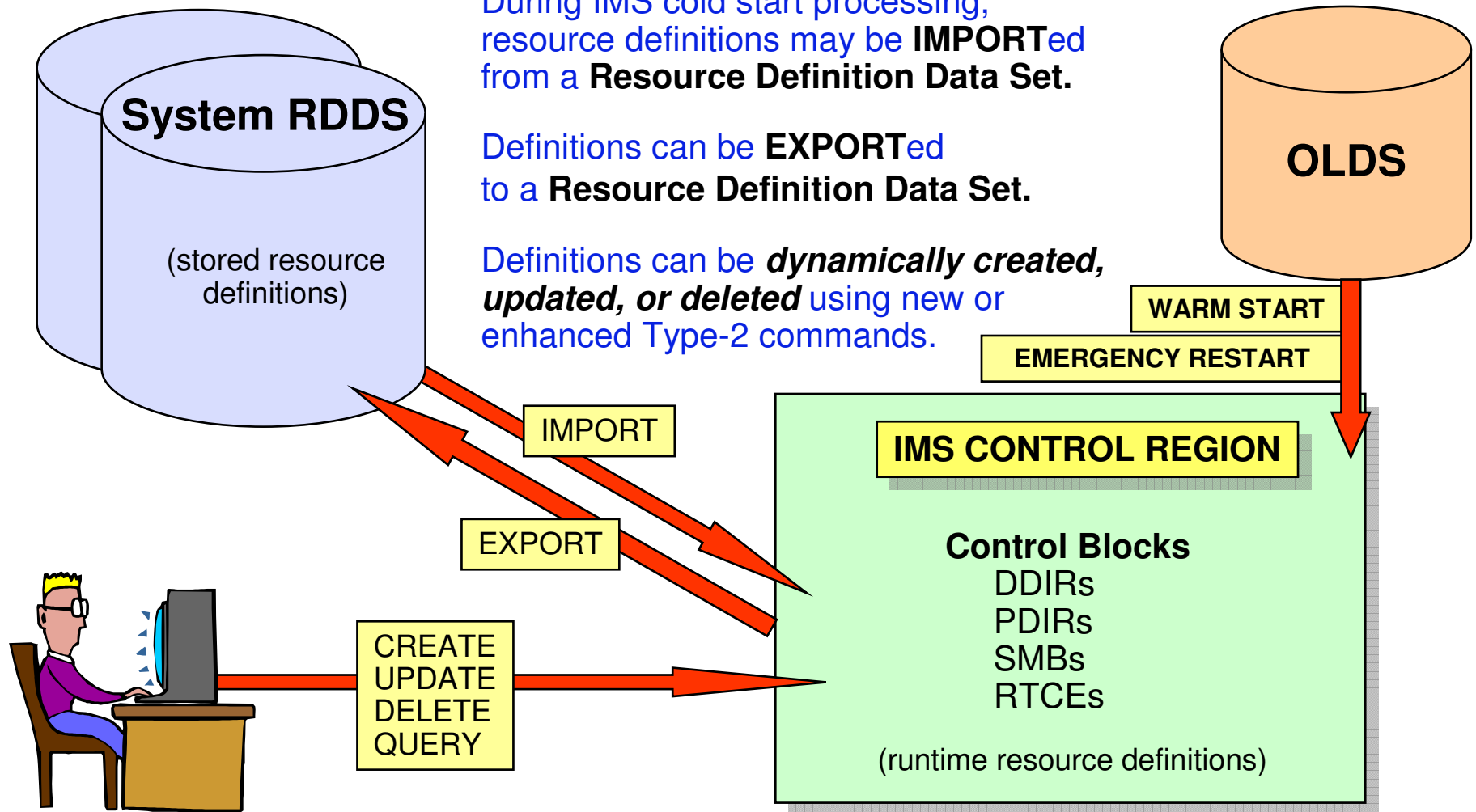


Modifying MODBLKS Resources with DRD

During IMS cold start processing, resource definitions may be **IMPORT**ed from a Resource Definition Data Set.

Definitions can be **EXPORT**ed to a Resource Definition Data Set.

Definitions can be *dynamically created, updated, or deleted* using new or enhanced Type-2 commands.



Basic DRD Components

Basic DRD Environment Components

- System RDDS
 - Data set that contains stored resource definitions for transactions, programs, databases, and routing codes
- CSL
 - Structured Call Interface (SCI) enables communication between IMSplex address spaces
 - Operations Manager (OM) does command routing/response to/from IMS
- IMS systems enabled for DRD to allow dynamic resource management
- SPOC
 - Command origin point and response formatter
 - Interface between user and OM

Simplified DRD Setup

System RDDS

- Provides a single system view of an IMS's resources and descriptors
- Contains all resource and descriptor definitions for an IMS
- Each IMS must define its own set of system RDDS data sets
- A set of system RDDS data sets must be defined for automatic import and automatic export
- BSAM data set
- Minimum of 2 system RDDSs, but ideal to have 3

Sample JCL for RDDS Allocation



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE      IMPOT19.TESTXYZ(DFSRDDAL) - 01.32          Line 00000000 Col 001 080
***** Top of Data *****
//RDDSALC   JOB   CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1)
//S1        EXEC  PGM=IEBGENER
//SYSOUT   DD    SYSOUT=*
//SYSPRINT DD    SYSOUT=*
//SYSUT1   DD    DUMMY,BLKSIZE=32760,RECFM=VB
//SYSUT2   DD    DSN=IMS.IMSD.RDDS1,
//          DCB=(RECFM=VB,LRECL=32756,BLKSIZE=32760),
//          UNIT=SYSDA,
//          DISP=(,CATLG),SPACE=(TRK,(10,10))
//SYSIN    DD    DUMMY
***** Bottom of Data *****

Command ==>
F1=Help    F2=Split  F3=Exit   F5=Rfind  F7=Up     F8=Down   F9=Swap
F10=Left   F11=Right  F12=Cancel

MA      A                                     A                                     22/015
```

DFSDFxxx – CSL Settings



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help
BROWSE IMS.IMSD.PROCLIB(DFSDF00D) - 01.11 Line 00000000 Col 001 080
***** Top of Data *****
*-----*
* COMMON SERVICE LAYER SECTION *
*-----*
<SECTION=COMMON_SERVICE_LAYER>
CMDSEC=R,
IMSPLEX=DEM0D,
LEOPT=Y,
OLC=LOCAL,
MODBLKS=DYN,
RMENV=N,
OMPROC=CSL0M,
SCIPROC=CSLSCI
*-----*
* DYNAMIC RESOURCES SECTION *
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO,
Command ==>
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel
MA A A 22/015
```

DFSDFxxx – CSL Settings

Specify the IMSplex name with IMSPLEX=, which should match the IMSplex name setting in the OM/SCI initialization PROCLIB members

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE IMS.IMSD.PROCLIB(DFSDF00D) -
***** Top of
*-----*
* COMMON SERVICE LAYER SECTION
*-----*
<SECTION=COMMON_SERVICE_LAYER>
CMDSEC=R,
IMSPLEX=DEMOD, ←
LEOPT=Y,
OLC=LOCAL,
MODBLKS=DYN,
RMENV=N,
OMPROC=CSLDM,
SCIPROC=CSLSCI
*-----*
* DYNAMIC RESOURCES SECTION
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO,
Command ==> _____ Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

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```

DFSDFxxx – CSL Settings

RMENV=N activates the enhanced command environment, in which OM and SCI are automatically started during IMS initialization

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE IMS.IMSD.PROCLIB(DFSDF00D) -
***** Top of
*-----*
* COMMON SERVICE LAYER SECTION
*-----*
<SECTION=COMMON_SERVICE_LAYER>
CMDSEC=R,
IMSPLEX=DEMOM,
LEOPT=Y,
OLC=LOCAL,
MODBLKS=DYN,
RMENV=N,
OMPROC=CSLDM,
SCIPROC=CSLSCI
*-----*
* DYNAMIC RESOURCES SECTION
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO,
Command ==>
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

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```

DFSDFxxx – CSL Settings

OMPROC and SCIPROC indicate which procedures will be invoked to start the OM and SCI address spaces during IMS initialization

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE IMS.IMSD.PROCLIB(DFSDF00D) -
***** Top of
*-----*
* COMMON SERVICE LAYER SECTION
*-----*
<SECTION=COMMON_SERVICE_LAYER>
CMDSEC=R,
IMSPLEX=DEMOM,
LEOPT=Y,
OLC=LOCAL,
MODBLKS=DYN,
RMENV=N,
OMPROC=CSLQM,
SCIPROC=CSLSCI
*-----*
* DYNAMIC RESOURCES SECTION
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO,
Command ==>
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

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```

Sample CSLOM Procedure

OMINIT=00D specifies the suffix of the CSLOIxxx initialization member that will be read during OM startup:
CSLOI00D

```
Session B - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE      IMPOT19.TESTXYZ(CSLOM) - 01.59
*****
//CSLOM     PROC RGN=3000K,SOUT=A,
//          RESLIB='IMS.IMSD.SDFSRESL
//          BPECFG=BPECFG,
//          OMINIT=00D,
//          PARM1='ARRRST=Y,CMDSEC=N,OMNAME=OM1,CMDLANG=ENU'
//
//OMPROC    EXEC PGM=BPEINI00,REGION=&RGN,
// PARM='BPECFG=&BPECFG,BPEINIT=CSLOINI0,OMINIT=&OMINIT,&PARM1'
//
//STEPLIB   DD  DD  DSN=&RESLIB,DISP=SHR
//          DD  DSN=SYS1.CSSLIB,DISP=SHR
//PROCLIB   DD  DSN=IMS.IMSD.PROCLIB,DISP=SHR
//SYSPRINT  DD  SYSOUT=&SOUT
//SYSUDUMP  DD  SYSOUT=&SOUT
//
***** Bottom of Data *****

Command ==> _____ Scroll ==> PAGE
F1=Help    F2=Split  F3=Exit   F5=Rfind  F7=Up     F8=Down   F9=Swap
F10=Left   F11=Right  F12=Cancel

MA B
```


CSLOIxxx - OM Initialization

Specify the IMSplex name with
IMSPLEX=, which should match the
IMSplex name setting in the
DFSDFXxx and CSLSIxxx members

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE IMS.IMSD.PROCLIB(CSLOI00D) - 0
***** Top of I
*-----*
* OPERATIONS MANAGER INITIALIZATION PARAM
*-----*

ARMRST=N, /* SHOULD ARM RESTART OM ON FAILURE? */
CMDLANG=ENU, /* USE ENGLISH FOR COMMMAND DESC */
CMDSEC=N, /* COMMAND SECURITY DELEGATED TO IMS */
OMNAME=IMSD, /* OM NAME (OMID = XXXXXXOM) */
IMSPLEX( /* IMSPLEX NAME */
  NAME=DEMOM, /* MVS LOG STREAM */
  AUDITLOG=SYSLOG.MVSQ01.LOG), /* PDS WITH CMD SYNTAX TRANSL TEXT */
  CMDTEXTDSN=IMS.V12R1.SDFSDATA /*-----*
* END OF MEMBER
*-----*
***** Bottom of Data *****
Command ==> _____ Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

MA A A 22/015
```

Sample CSLSCI Procedure

```
Session B - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE IMPOT19.TESTXYZ (CSLSCI) - 01.
***** Top of
//CSLSCI PROC RGN=3000K,SOUT=A,
// RESLIB='IMS.IMSD.SDFSRESL
// BPECFG=BPECONFIG,
// SCIINIT=00D,
// PARM1=PARM1=' ARMRST=Y, SCINAME=SCI11'
// *
//SCIPROC EXEC PGM=BPEINI00,REGION=&RGN,
// PARM='BPECFG=&BPECFG,BPEINIT=CSLSINI0,SCIINIT=&SCIINIT,&PARM1'
// *
//STEPLIB DD DSN=&RESLIB,DISP=SHR
// DD DSN=SYS1.CSSLIB,DISP=SHR
//PROCLIB DD DSN=IMS.IMSD.PROCLIB,DISP=SHR
//SYSPRINT DD SYSOUT=&SOUT
//SYSUDUMP DD SYSOUT=&SOUT
// *
***** Bottom of Data *****

Command ==> _____ Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

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```

SCIINIT=00D specifies the suffix of the CSLSIxxx initialization member that will be read during SCI startup: CSLSI00D

CSLSIxxx - SCI Initialization

Specify the IMSplex name with IMSPLEX=, which should match the IMSplex name setting in the DFSDFxxx and CSLOIxxx members

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help

BROWSE IMS.IMSD.PROCLIB(CSLSI00D) - C
***** Top of *****
*-----*
* STRUCTURED CALL INTERFACE INITIALIZATION *
*-----*

ARMRST=Y, /* SHOULD ARM RESTART SCI ON FAILURE? */
SCINAME=IMSD, /* SCI NAME (SCIID = XXXXXSCI) */
IMSPLEX(NAME=DEM0D) /* IMSPLEX NAME (CSLXXXXX) */

*-----*
* END OF MEMBER *
*-----*
***** Bottom of Data *****

Command ==> _____ Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

MA A 22/015
```

DFSDFxxx – DRD Enablement for IMS



MODBLKS=DYN indicates that DRD will be used to manage MODBLKS resource definitions instead of online change

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help
BROWSE IMS.IMSD.PROCLIB(DFSDF00D) - 0
***** Top of
*-----*
* COMMON SERVICE LAYER SECTION
*-----*
<SECTION=COMMON_SERVICE_LAYER>
CMDSEC=R,
IMSPLEX=DEMOM,
LEOPT=Y,
OLC=LOCAL,
MODBLKS=DYN, ←
RMENV=N,
OMPROC=CSLDM,
SCIPROC=CSLSCI
*-----*
* DYNAMIC RESOURCES SECTION
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO,
Command ==> _____ Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel
MA A A 22/015
```

DFSDFxxx – DRD Enablement for IMS



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help
BROWSE IMS.IMSD.PROCLIB(DFSDF00D) -
*-----*
* DYNAMIC RESOURCES SECTION
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO, ←
AUTOIMPORT=AUTO,
RDDSDSN=(
  IMS.IMSD.RDDS1,
  IMS.IMSD.RDDS2,
  IMS.IMSD.RDDS3)
***** Bottom of Data *****

Command ==>
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

MA A 22/015
```

AUTOEXPORT=AUTO
will cause IMS to automatically
export all resource and descriptor
definitions to the system RDDDS
at every system checkpoint,
including right after coldstart

DFSDFxxx – DRD Enablement for IMS



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Menu Utilities Compilers Help
BROWSE IMS.IMSD.PROCLIB(DFSDF00D) -
*-----*
* DYNAMIC RESOURCES SECTION
*-----*
<SECTION=DYNAMIC_RESOURCES>
AUTOEXPORT=AUTO,
AUTOIMPORT=AUTO, ←
RDDSDSN=(
  IMS.IMSD.RDDS1,
  IMS.IMSD.RDDS2,
  IMS.IMSD.RDDS3)
***** Bottom of Data *****

Command ==>
F1=Help F2=Split F3=Exit F5=Rfind F7=Up F8=Down F9=Swap
F10=Left F11=Right F12=Cancel

MA A 22/015
```

AUTOIMPORT=AUTO will cause IMS to read resource and descriptor definitions from the system RDDS during coldstart, and from MODBLKS if RDDS is empty

Populating System RDDS First Time

- **AUTOIMPORT=AUTO** and **AUTOEXPORT=AUTO** will populate RDDS with definitions from MODBLKS
 - When coldstarting IMS for the first time after enabling DRD, its system RDDS will be empty, so IMS will autoimport definitions from MODBLKS dataset
 - Autoexport will occur after coldstart complete, populating the system RDDS with the definitions just read in from MODBLKS data set
 - At next coldstart, IMS will autoimport from the system RDDS since it now contains definitions

TSO SPOC & DRD Commands

Invoking TSO SPOC Application for Commands

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Help
-----
                    IMS Application Menu                    Enter option

Select an application and press Enter.

→ 1  Single Point of Control (SPOC)
   2  Manage resources
   3  Reserved for future use
   4  HALDB Partition Definition Utility (PDU)
   5  Syntax Checker for IMS parameters (SC)
   6  Installation Verification Program (IVP)
   7  IVP Export Utility (IVPEX)
   8  IPCS with IMS Dump Formatter (IPCS)
   9  Abend Search and Notification (ASN)

To exit the application, press F3.

Command ===> _____
F1=Help  F12=Cancel

M&  A
```

Invoking TSO SPOC Application for Commands

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
-----
DEMODO                IMS Single Point of Control
Command ==> _____
-----
Plex . . _____ Route . . _____ Wait . . _____
Response for:
CSLM000I      Copyright IBM Corp. 2000. All rights reserved.

F1=Help      F3=Exit      F4=Showlog   F6=Expand    F9=Swap      F12=Cancel
MA A                                               04/015
```

Invoking TSO SPOC Application for Commands

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
DEMOD          IMS Single Point o  1 1. Preferences...
Command ==>    2. Set IMS groups...
Plex . .      Route . .          Wait . .
Response for:
CSLM000I      Copyright IBM Corp. 2000. All rights reserved.

F1=Help      F3=Exit      F4=Showlog   F6=Expand   F9=Swap     F12=Cancel
MA A                                               03/050
  
```

Invoking TSO SPOC Application for Commands

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Help
-----
DEMODO                IMS Single Point of Control Preferences

Command ==> _____
Select your options and press the Enter key.

Command Entry Preferences More: +
Default IMSplex . . . . . DEMODO
Default routing . . . . . _____

Wait interval . . . . . _____
Waiting preference . . . 1 1. Wait for command to complete.
                          2. Do not wait for command response.

Command shortcuts . . . 2 1. Use command shortcuts.
                          2. Do not use command shortcuts.

Shortcut processing . . . — 1. Merge explicit and default parameters.
                          2. Explicit parameters override defaults.

F1=Help  F12=Cancel

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```

Dynamically Creating a Program Resource

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
-----
DEMOD                      IMS Single Point of Control
Command ==> _____

_____ Plex . . _____ Route . . _____ Wait . . _____
Response for: CREATE PGM NAME(PGMXXC) SET(SCHDTYPE(SERIAL))
PgmName  MbrName    CC
PGMXXC   IMSD       0

F1=Help      F3=Exit      F4=Showlog   F6=Expand    F9=Swap      F12=Cancel
MA          A                                  A
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```

Updating a Resource Attribute Value

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
-----
DEMOD                      IMS Single Point of Control
Command ==> _____
-----
Plex . . _____ Route . . _____ Wait . . _____
Response for: UPDATE PGM NAME(PGMXXC) SET(SCHDTYPE(PARALLEL))
PgmName  MbrName  CC
PGMXXC   IMSD     0
-----
F1=Help      F3=Exit      F4=Showlog   F6=Expand    F9=Swap      F12=Cancel
MA          A                               A
04/015
  
```

Updating a Resource Status

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
-----
DEMOD                               IMS Single Point of Control
Command ==> _____
-----
Plex . . _____ Route . . _____ Wait . . _____
Response for: UPDATE PGM NAME(PGMXXC) STOP(SCHD)
PgmName  MbrName  CC
PGMXXC   IMSD     0
-----
F1=Help      F3=Exit      F4=Showlog   F6=Expand    F9=Swap      F12=Cancel
MA A                                               A                                04/015
  
```

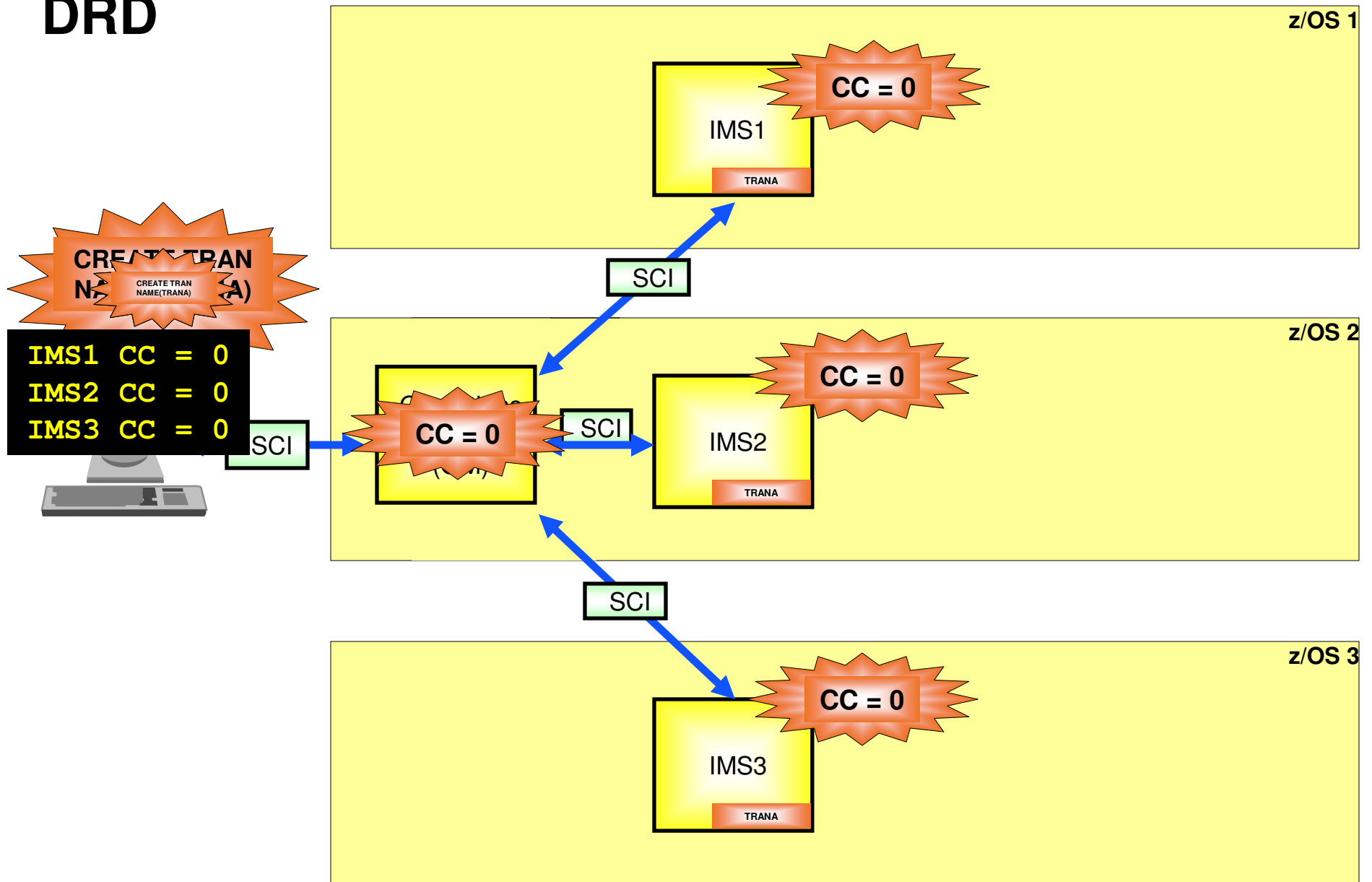
Dynamically Deleting a Resource

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
-----
DEMOD                      IMS Single Point of Control
Command ==> _____
-----
Plex . . _____ Route . . _____ Wait . . _____
Response for: DELETE PGM NAME(PGMXXC)
PgmName  MbrName  CC
PGMXXC   IMSD     0
-----
F1=Help      F3=Exit      F4=Showlog   F6=Expand    F9=Swap      F12=Cancel
MA A
04/015
  
```


Action!

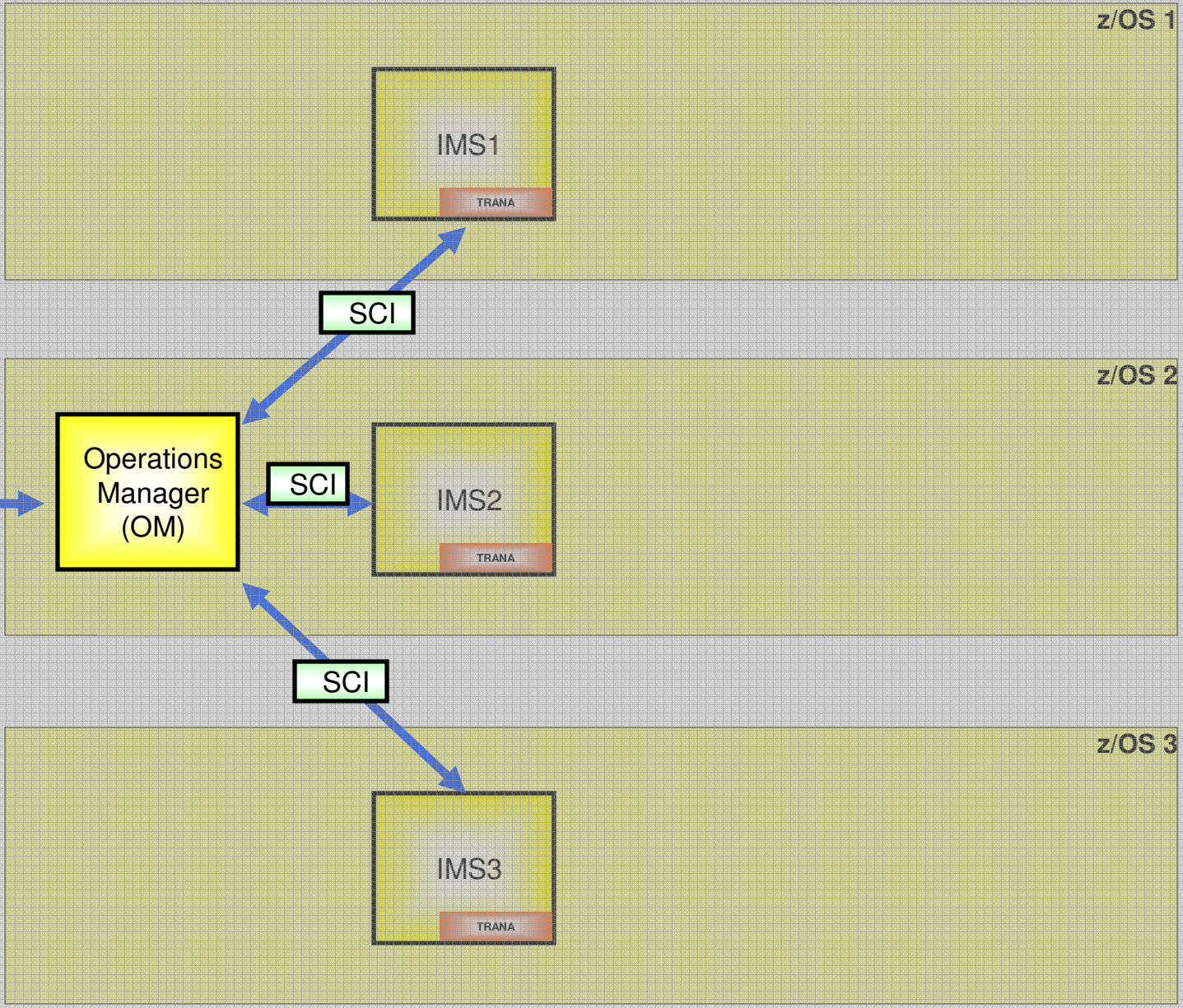
DRD



SCI enables communication between the SPOC/OM as well as OM/IMS

```
IMS1 CC = 0  
IMS2 CC = 0  
IMS3 CC = 0
```

OM routes command to each IMS to create the TRANA transaction resource and consolidates the command response from each system



Best Practices for Migration and Usage

Managing Data Sets During Migration

- Keep MODBLKS data set and system RDDS synchronized during migration process
 - Why?
 - Enables fallback to OLC with MODBLKS data set in case DRD needs to be disabled
 - How?
 - Keep an up-to-date MODBLKS data set that matches most recently updated system RDDS
 - Use Extract RDDS Contents utility to generate STAGE1 macro definitions that reflect system RDDS contents
 - Generate MODBLKS data set with these STAGE1 definitions that are synchronized with the system RDDS

Managing Data Sets During Migration

- Keep MODBLKS data set and system RDDS synchronized during migration process
 - When?
 - Every time resource changes are made with DRD, keep MODBLKS data set up-to-date until migration process has been completed

Managing Data Sets After Migration

- Data set cleanup
 - System RDDS (most current) used for automatic import when IMS coldstarts unless MODBLKS is specified as the data set to import from
 - Delete MODBLKS data sets once DRD migration complete with successful testing

Deleting/Updating Resources with DRD

- Resource cannot be “in use”, for example:
 - Transaction with messages queued
 - Database referenced by a scheduled program
- Recommendation for deleting or updating a resource:
 - QUERY the resources with SHOW(WORK) specified to confirm no work in progress exists for resource
 - Stop resource before attempting to delete or update



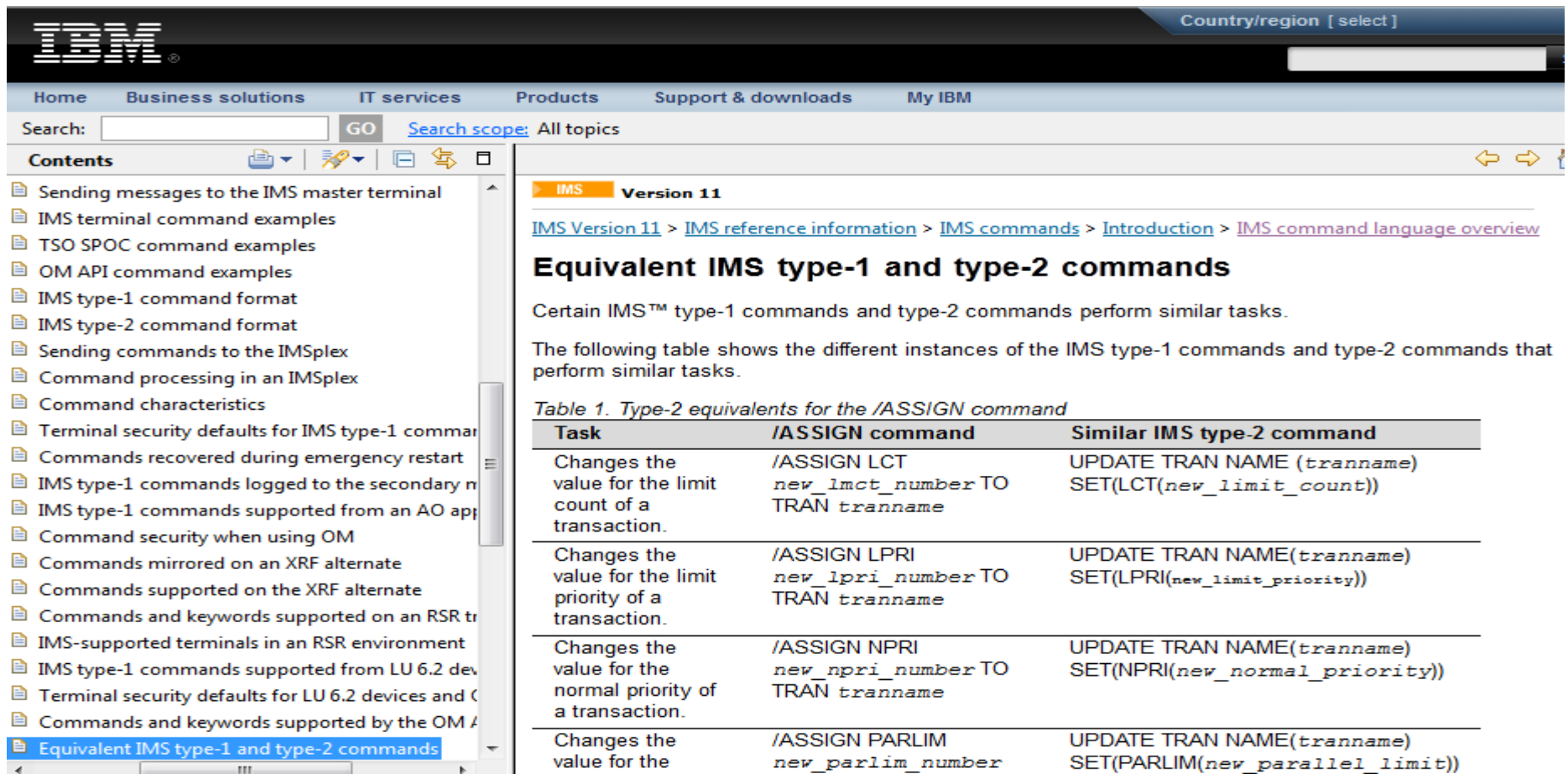
Learning Type-2 Commands

- Become familiar with DRD commands
- UPDATE and QUERY commands all have type-1 command equivalents
 - See the *IMS Commands* manual for a chart that lists type-1 commands with their type-2 DRD command equivalents
 - Sneak Peek:

| Task | Type-1 command | Type-2 command |
|---|---|---|
| Create or change the limit on the size of application program output segments allowed in message queues for each GU call. | /ASSIGN SEGSZ new_segsize_number TO TRAN tranname | UPDATE TRAN NAME(tranname) SET(SEGSZ(new_segment_size)) |
| Change the class number of a transaction. | /ASSIGN TRAN tranname TO CLS new_class_number | UPDATE TRAN NAME(tranname) SET(CLASS(new_class_number)) |
| Stop updates to a database. | /DBDUMP DB dbname | UPDATE DB NAME(dbname) STOP(UPDATES) OPTION(FEOV) ¹ |

Learning Type-2 Commands

- How do you find that neat table?
- Type “Equivalent IMS type-1 and type-2 commands” into a search engine and the first result leads to this page:



The screenshot shows the IBM Support website interface. The search bar contains the text "Equivalent IMS type-1 and type-2 commands". The search results page displays the following content:

IMS Version 11

[IMS Version 11](#) > [IMS reference information](#) > [IMS commands](#) > [Introduction](#) > [IMS command language overview](#)

Equivalent IMS type-1 and type-2 commands

Certain IMS™ type-1 commands and type-2 commands perform similar tasks.

The following table shows the different instances of the IMS type-1 commands and type-2 commands that perform similar tasks.

Table 1. Type-2 equivalents for the /ASSIGN command

| Task | /ASSIGN command | Similar IMS type-2 command |
|---|---|---|
| Changes the value for the limit count of a transaction. | /ASSIGN LCT <i>new_lmct_number</i> TO TRAN <i>tranname</i> | UPDATE TRAN NAME (<i>tranname</i>) SET(LCT(<i>new_limit_count</i>)) |
| Changes the value for the limit priority of a transaction. | /ASSIGN LPRI <i>new_lpri_number</i> TO TRAN <i>tranname</i> | UPDATE TRAN NAME(<i>tranname</i>) SET(LPRI(<i>new_limit_priority</i>)) |
| Changes the value for the normal priority of a transaction. | /ASSIGN NPRI <i>new_npri_number</i> TO TRAN <i>tranname</i> | UPDATE TRAN NAME(<i>tranname</i>) SET(NPRI(<i>new_normal_priority</i>)) |
| Changes the value for the | /ASSIGN PARLIM <i>new_parlim_number</i> | UPDATE TRAN NAME(<i>tranname</i>) SET(PARLIM(<i>new_parallel_limit</i>)) |

Creating New Databases

- When adding a new database with DRD, create a corresponding DBD in ACBLIB using online change
 - Traditional (local) OLC
 - Global OLC
 - Member OLC
 - Highest availability, quiesces least amount of members
 - Does not support MSDBs
- Otherwise: newly created database will have a NOTINIT status until this ACBLIB step is completed

Creating New Databases

- Connect other IMS resources to newly created database, such as programs and transactions
- Choose to use DRD for managing MODBLKS resources or online change
 - Coldstart required to switch between the two, which can impact availability

Resources Created using LIKE()

- If updating a resource/descriptor, resources previously created from it will not automatically be updated
- Use Batch SPOC utility to submit UPDATE commands against resources requiring update separately
- Example:
 - CREATE TRANDESC NAME(TDESC1) SET(SERIAL(N))
 - CREATE TRAN NAME(TRAN1, TRAN2, ...) LIKE(TDESC1)
 - UPDATE TRANDESC NAME(TDESC1) SET(SERIAL(Y))
 - UPDATE TRAN NAME(TRAN1,TRAN2) SET(SERIAL(Y))
 - TRAN1, TRAN2, ... will still have SERIAL=N so must update separately

Batch DRD Updates

- Change management process that requires batch updates
 - Use Batch SPOC utility to submit DRD commands to IMS systems
 - Run in batch, commands submitted via JCL statements
 - Example

```
//SPOCJOB    JOB ,  
//MSGCLASS=H, NOTIFY=&SYSUID, USER=&SYSUID  
//SPOC      EXEC PGM=CSLUSPOC,  
//  PARM= ( ' IMSPLEX=PLEX1, ROUTE=IMS3, WAIT=30 ' )  
//STEPLIB   DD DISP=SHR, DSN=IMS.SDFSRESL  
//SYSPRINT  DD SYSOUT=*  
//SYSIN     DD *  
    CREATE TRAN NAME (TRAN1, TRAN2) SET (SERIAL (Y) )  
    UPDATE TRAN NAME (TRAN3) SET (PARLIM (65535) )  
/*EOF
```

Track DRD Activity with OM Audit Trail

- Enable OM Audit Trail to track IMSplex activity, including resources being dynamically managed
 - Displays DRD input commands + responses
 - Includes timestamps
 - Example showing an updated database and program...

OM Audit Trail Showing DRD Activity



- Enable OM Audit Trail to track IMSplex activity, including resources being dynamically managed
- Tracks DRD input commands/responses + timestamps

```

File  Action  Manage resources  SPOC  View  Options  Help
-----
PLEX1                                IMSplex Audit Trail
Command ===> _____

Members . . _____  Type . . _____
More:    -+>

MbrName  Time                Message
USRT004  2008.149 09:43:47.14 Cmd input . : QRY DB NAME(B*) SHOW(ALL)
USRT004  2008.149 09:43:47.14 Response for: QRY DB NAME(B*) SHOW(ALL)
USRT004  2008.149 09:44:13.42 Cmd input . : UPD DB NAME(BANKTERM) SET(RESIDENT(Y
USRT004  2008.149 09:44:13.42 Response for: UPD DB NAME(BANKTERM) SET(RESIDENT(Y
USRT005  2008.149 09:44:54.83 Cmd input . : QRY MEMBER TYPE(IMS) SHOW(ATTRIB)
USRT005  2008.149 09:44:54.83 Response for: QRY MEMBER TYPE(IMS) SHOW(ATTRIB)
USRT005  2008.149 09:45:02.18 Cmd input . : QRY TRAN SHOW(ALL) STATUS(DYN,IOPREV
USRT005  2008.149 09:45:02.18 Response for: QRY TRAN SHOW(ALL) STATUS(DYN,IOPREV
USRT005  2008.149 09:45:25.23 Cmd input . : QRY DB SHOW(ALL) STATUS(ALLOCF,BACKO
USRT005  2008.149 09:45:25.23 Response for: QRY DB SHOW(ALL) STATUS(ALLOCF,BACKO
USRT001  2008.149 09:46:38.78 Cmd input . : QRY MEMBER TYPE(IMS) SHOW(ATTRIB)
USRT001  2008.149 09:46:38.78 Response for: QRY MEMBER TYPE(IMS) SHOW(ATTRIB)
USRT001  2008.149 09:46:42.76 Cmd input . : QRY PGM SHOW(ALL)
USRT001  2008.149 09:46:42.76 Response for: QRY PGM SHOW(ALL)
USRT001  2008.149 09:47:03.33 Cmd input . : UPD PGM NAME(APOL1) SET(DOPT(Y))

F1=Help  F3=Exit  F5=Rfind  F7=Up      F8=Down  F12=Cancel
    
```


OM Audit Trail Showing DRD Activity

- Filter by user ID

```

File  Action  Manage resources  SPOC  View  Options  Help
-----
PLEX1                                IMSplex Audit Trail
Command ==> _____

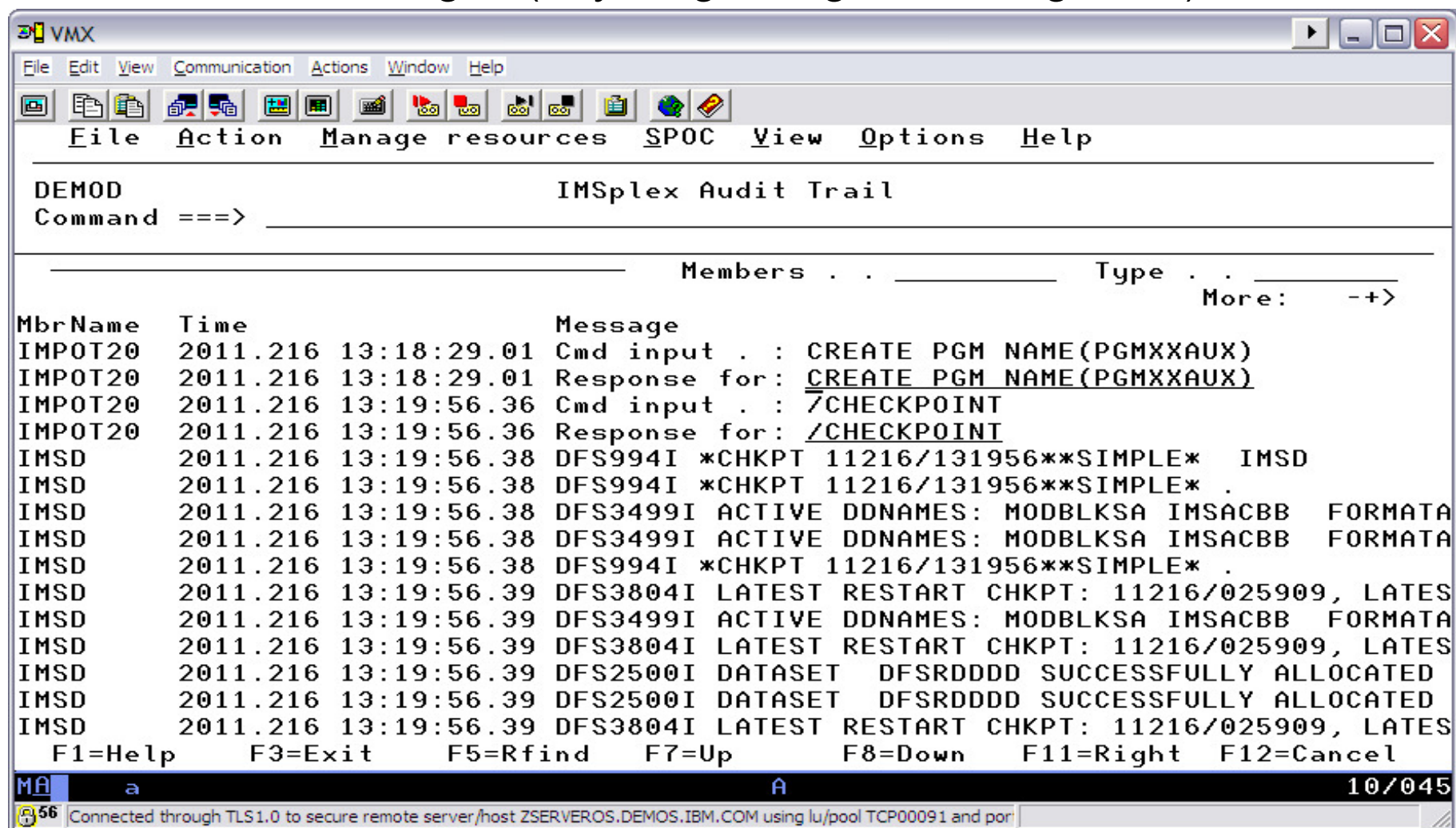
Members  . usr002  Type  . .  _____
More:   -->

MbrName  Time                Message
USRT002  2008.148 10:47:26.43 Response for: DIS STATUS
USRT002  2008.148 11:08:37.49 Cmd input . : DIS DB ALL
USRT002  2008.148 11:08:37.49 Response for: DIS DB ALL
USRT002  2008.148 11:08:42.45 Cmd input . : DIS STATUS
USRT002  2008.148 11:08:42.45 Response for: DIS STATUS
USRT002  2008.148 11:39:12.95 Cmd input . : DIS DB ALL
USRT002  2008.148 11:39:12.95 Response for: DIS DB ALL
USRT002  2008.148 11:39:27.71 Cmd input . : DIS STATUS
USRT002  2008.148 11:39:27.71 Response for: DIS STATUS
USRT002  2008.148 12:52:48.28 Cmd input . : QRY TRAN NAME (A*)
USRT002  2008.148 12:52:48.28 Response for: QRY TRAN NAME (A*)
USRT002  2008.148 12:53:01.85 Cmd input . : QRY DB NAME (A*)
USRT002  2008.148 12:53:01.85 Response for: QRY DB NAME (A*)
USRT002  2008.148 12:53:13.26 Cmd input . : DIS DB ALL
USRT002  2008.148 12:53:13.26 Response for: DIS DB ALL

F1=Help  F3=Exit  F5=Rfind  F7=Up      F8=Down  F12=Cancel
  
```

OM Audit Trail Showing DRD Activity

- Includes type-1 and type-2 command input/response as well as unsolicited messages (anything that goes through OM)



```

VMX
File Edit View Communication Actions Window Help
File Action Manage resources SPOC View Options Help
-----
DEMOD                               IMSplex Audit Trail
Command ==> _____
-----
Members . . _____ Type . . _____
More: -+>
MbrName  Time                Message
IMPOT20  2011.216 13:18:29.01 Cmd input . : CREATE PGM NAME(PGMXXAUX)
IMPOT20  2011.216 13:18:29.01 Response for: CREATE PGM NAME(PGMXXAUX)
IMPOT20  2011.216 13:19:56.36 Cmd input . : /CHECKPOINT
IMPOT20  2011.216 13:19:56.36 Response for: /CHECKPOINT
IMSD     2011.216 13:19:56.38 DFS994I *CHKPT 11216/131956**SIMPLE*  IMSD
IMSD     2011.216 13:19:56.38 DFS994I *CHKPT 11216/131956**SIMPLE*  .
IMSD     2011.216 13:19:56.38 DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB  FORMATA
IMSD     2011.216 13:19:56.38 DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB  FORMATA
IMSD     2011.216 13:19:56.38 DFS994I *CHKPT 11216/131956**SIMPLE*  .
IMSD     2011.216 13:19:56.39 DFS3804I LATEST RESTART CHKPT: 11216/025909, LATES
IMSD     2011.216 13:19:56.39 DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB  FORMATA
IMSD     2011.216 13:19:56.39 DFS3804I LATEST RESTART CHKPT: 11216/025909, LATES
IMSD     2011.216 13:19:56.39 DFS2500I DATASET  DFSRDDDD SUCCESSFULLY ALLOCATED
IMSD     2011.216 13:19:56.39 DFS2500I DATASET  DFSRDDDD SUCCESSFULLY ALLOCATED
IMSD     2011.216 13:19:56.39 DFS3804I LATEST RESTART CHKPT: 11216/025909, LATES
F1=Help  F3=Exit  F5=Rfind  F7=Up      F8=Down  F11=Right F12=Cancel
MA a A 10/045
56 Connected through TLS1.0 to secure remote server/host ZSERVEROS.DEMOS.IBM.COM using lu/pool TCP00091 and por
  
```

Summary



- DRD review
- Basic components of a DRD environment
 - System Resource Definition Data Set (RDDS)
 - Common Service Layer (CSL)
 - DRD-enabled IMS system(s)
 - Single Point of Control (SPOC)
- Simplified setup of DRD components
 - RDDS allocation
 - PROCLIB members
 - DFSDFxxx – IMS
 - CSLOIxxx – OM
 - CSLSIxxx – SCI
 - RDDS population
 - TSO SPOC application and DRD commands
- Best practices for migration and usage

System z Social Media

- **System z official Twitter handle:**
 - [@ibm_system_z](#)
- **Top Facebook pages related to System z:**
 - [Systemz Mainframe](#)
 - [IBM System z on Campus](#)
 - [IBM Mainframe Professionals](#)
 - [Millennial Mainframer](#)
- **Top LinkedIn Groups related to System z:**
 - [Mainframe Experts Network](#)
 - [Mainframe](#)
 - [IBM Mainframe](#)
 - [System z Advocates](#)
 - [Cloud Mainframe Computing](#)
- **YouTube**
 - [IBM System z](#)



- **Leading Blogs related to System z:**
 - [Evangelizing Mainframe \(Destination z blog\)](#)
 - [Mainframe Performance Topics](#)
 - [Common Sense](#)
 - [Enterprise Class Innovation: System z perspectives](#)
 - [Mainframe](#)
 - [MainframeZone](#)
 - [Smarter Computing Blog](#)
 - [Millennial Mainframer](#)



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Questions?



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