Simplifying the Management of IMS with IMS Configuration Manager

Jim Martin

Session agenda

- Evolution of IMS Parameter Manager to IMS Configuration Manager

- Dynamic resource definitions (DRD) and IMS Configuration Manager

- Overview of IMS Configuration Manager

- Changes to Parameter Management component

- Conclusions

From IMS Parameter Manager to IMS Configuration Manager

- IMS Configuration Manager is a rebranding of IMS Parameter Manager

- Represents the introduction of significant new features and a refocus of the product

- Focus changes from managing IMS parameters to managing IMS resources

- Retains most parameter management functionality

- Adds ability to maintain and install IMS resources

- Leverages IMS DRD capabilities

Dynamic resource definition

- IMS V10 introduced dynamic resource definitions (DRD)

- DRD allows IMS resources (transactions, programs, database and fast path routing codes) to be installed dynamically

- DRD means you can introduce changes more frequently with no down time to IMS

- DRD means you no longer need to perform SYSGENs

  - MODBLKS no longer used
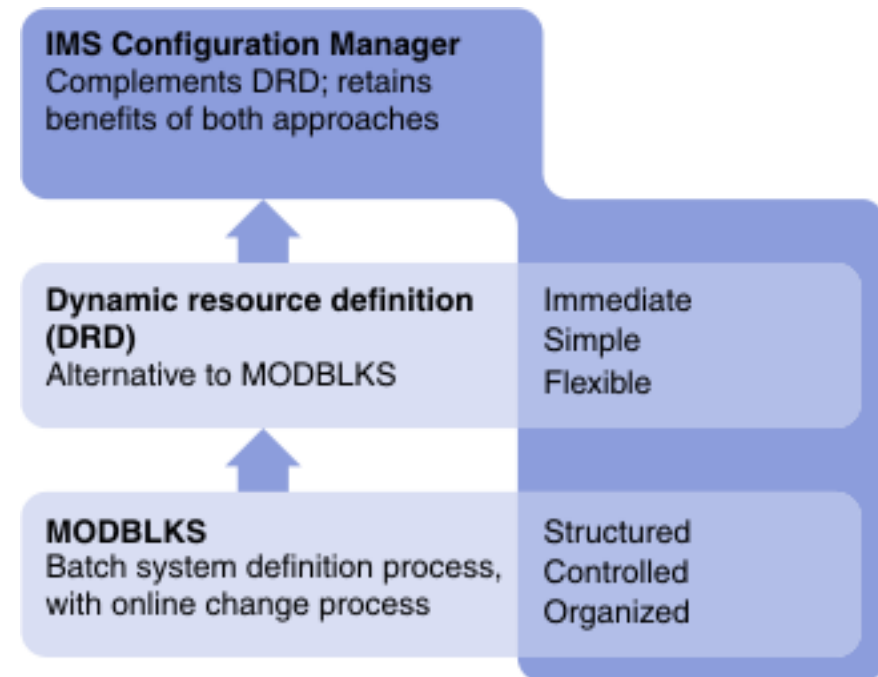
No SYSGENs: the challenges

- You probably have established processes around your IMSGEN process

  – Do you change these processes to gain the benefits of DRD?

- With DRD, you no longer have source for your resource definitions.

  – How do you modify resource definitions offline?

  – How do you stage and distribute changes to resource definitions?

- With DRD all changes are either permanent or temporary

  – How do you tell the difference?

  – How do you relate a change to a logical change request?

  – How do you restore a system to a previous state?

How the IMS Configuration Manager Helps

- IMS Configuration Manager consists of a resource manager and a parameter manager

- The resource manager provides a repository of IMS definitions and offline management of IMS resources.

- It provides a resource installer that leverages the capabilities of the IMS Operations Manager (OM)

- The parameter manager provides a robust smart editor for IMS parameters, syntax checking, and an edit history

Benefits

- Convert current process to IBM supported product

- Create and update IMS resources with more frequently

- Provide greater autonomy for application developers

- Deskill the process of managing resources and parameters

- Integrate DRD into existing change management processes

- Automate install process with an intelligent resource installer

- A complete audit history of all install activity performed through the product

IMS Configuration Manager
Complements DRD; retains benefits of both approaches

Dynamic resource definition (DRD)
Alternative to MODBLKS

Immediate
Simple
Flexible

MODBLKS
Batch system definition process, with online change process

Structured
Controlled
Organized

ICM Processes - Takeup

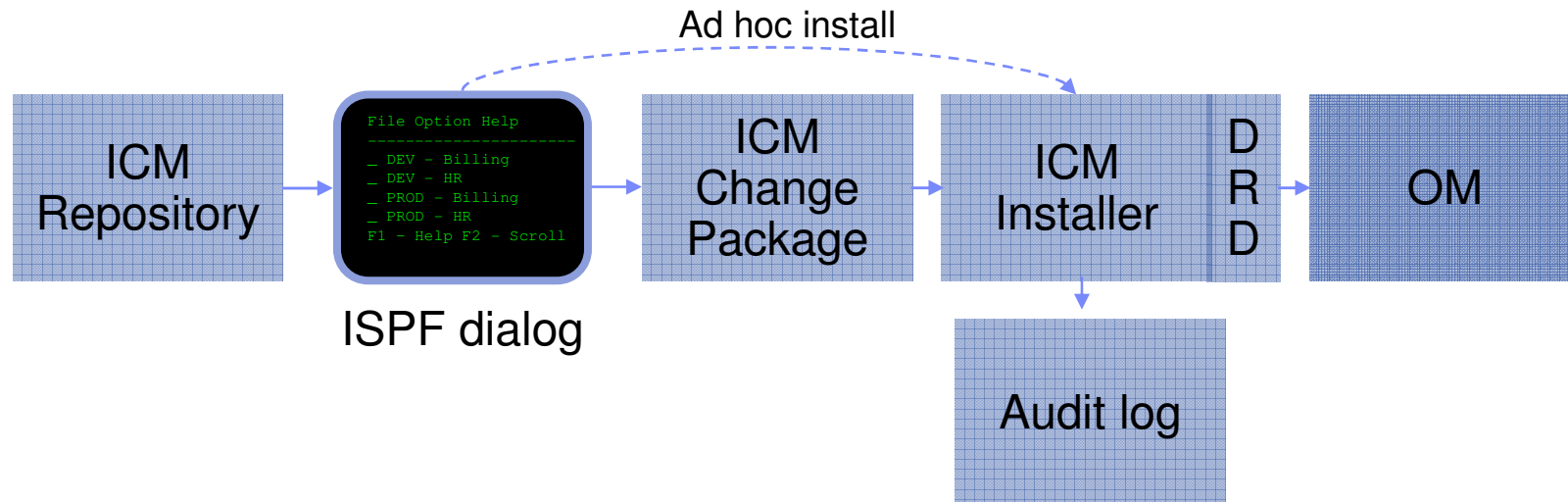| Stage 1	→	ICM Batch Takeup	→	ICM Repository

- Seamless transformation of stage 1 source into an IMS Configuration Manager repository

- Maintain logical structure of resource definitions and annotations

- Update existing definitions through additional take ups (e.g. if you receive applications updates from other vendors)

ICM Processes – updating resources

Ad hoc install

| ICM Repository | ISPF dialog | ICM Change Package | ICM Installer | D R D | OM |

```
File Option Help
--------------------
_ DEV - Billing
_ DEV - HR
_ PROD - Billing
_ PROD - HR
F1 - Help F2 - Scroll
```

ISPF dialog

Audit log

- An ISPF dialog is provided to edit and manage resources

- Control over results of install process

  – Install failures can result in all changes being reversed

- An audit log is maintained of all changes made through ICM

Resources are placed in logical groups

```
  File  Help
 --------------------------------------------------------------------------------
                           Resource Groups                    Row 1 of 4 More: <>
 Command ===> _____  Scroll ===> PAGE

 Select a Resource Group to process.

 /      Resource Group              Description
 ___    BANKING                     Banking application definitions
 ___    COMMON                      Definitions common to all applications
 ___    HR                          HR application definitions
 ___    PAYROLL                     Payroll application definitions
 ***************************** Bottom of data *********************************
```
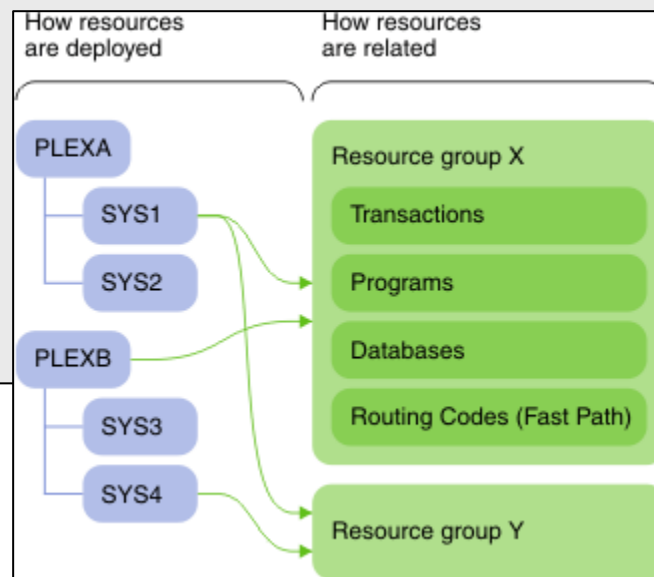
Each group contains all related resource definitions

```
  File  Help
 --------------------------------------------------------------------------------
EDIT                         Resource Group                  Row 1 of 7 More: <>
Command ===> _____     Scroll ===> PAGE

Resource Group . : BANKING
Description  . . . Banking application definitions          Notes...

Select a resource to update its definition.

      Name        Prompt     Type     Created      Changed              ID
/     *_____             ____     *_____    *_____ *_____
____  BANKL                  PROGRAM  2010-01-25   2010-01-25 10.28.03  REA
____  BANKN                  PROGRAM  2010-01-25   2010-01-25 10.28.15  REA
____  CUSTDB                 DATABASE 2010-01-25   2010-01-25 10.28.51  REA
____  TX001                  TRAN     2010-01-25   2010-01-25 10.25.09  REA
____  TX002                  TRAN     2010-01-25   2010-01-25 10.25.26  REA
____  TX003                  TRAN     2010-01-25   2010-01-25 10.27.36  REA
____  TX004                  TRAN     2010-01-25   2010-01-25 10.29.48  REA
****************************** Bottom of data ******************************
```

Use filters to browse resources within the group

```
  File  Help
 ---------------------------------------------------------------------------
 EDIT                          Resource Group                 Row 1 of 4 More: <>
 Command ===> _____        Scroll ===> PAGE

 Resource Group . : BANKING
 Description  . . . Banking application definitions              Notes...

 Select a resource to update its definition.

     Name         Prompt      Type      PSBName    AOCMD  Class  CmtMode  Conv  DCLWA
 /   *                        TRAN      Filter*    *      *      *        *     *
 ___ TX001                    TRAN      BANKL      N      1      SNGL     N
 ___ TX002                    TRAN      BANKL      N      1      SNGL     N
 ___ TX003                    TRAN      BANKL      N      1      SNGL     N
 ___ TX004                    TRAN      BANKN      N      1      SNGL     N
 ****************************** Bottom of data ******************************
```

Simple forms for resource attributes

```
  File  Help
 ----------------------------------------------------------------------
EDIT                        Transaction TX001
Command ===>  _____

Update transaction definition.

Transaction . : TX001
Description . . You can use descriptions and notes ----->   Notes...
                                                              More:    +
Attribute                   Description
  AOCMD . . . . N           AOI command option (CMD, N, TRAN, Y)
  CLASS . . . . 1           Class (1-999)
  CMTMODE . . . SNGL        Commit mode (SNGL, MULT)
  CONV  . . . . N           Conversational (Y, N)
  DCLWA . . . . _           Log write-ahead option (Y, N)
  DIRROUTE  . . N           MSC direct routing option (Y, N)
  EDITRTN . . . _____    Input edit routine
  EDITUC  . . . Y           Edit to uppercase (Y, N)
  EMHBSZ  . . . _____       EMH buffer size (12-30720)
  EXPRTIME  . . 0           Expiration time (0-65535)
  FP  . . . . . N           Fastpath processing option (N, E, P)
  INQ . . . . . N           Inquiry option (Y, N)
  LCT . . . . . 65535       Limit count (1-65535)
```
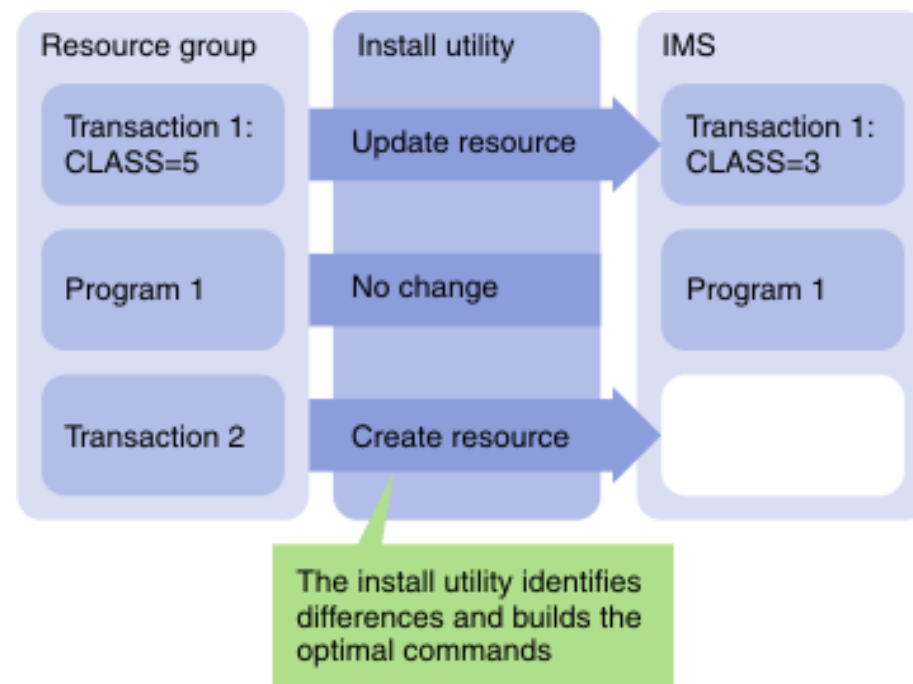
- Context sensitive help
- Extensive validation
- Notes

IMS Configuration Manager resource installer

- The installer provides enhanced services on top of the IMS type-2 command interface

- Autonomically determines whether an install or update is required

- Rollback option

- Full-logging and auditing of install activity

Resource group	Install utility	IMS
Transaction 1: CLASS=5	Update resource	Transaction 1: CLASS=3
Program 1	No change	Program 1
Transaction 2	Create resource	

The install utility identifies differences and builds the optimal commands

ICM Processes – installing to remote sites
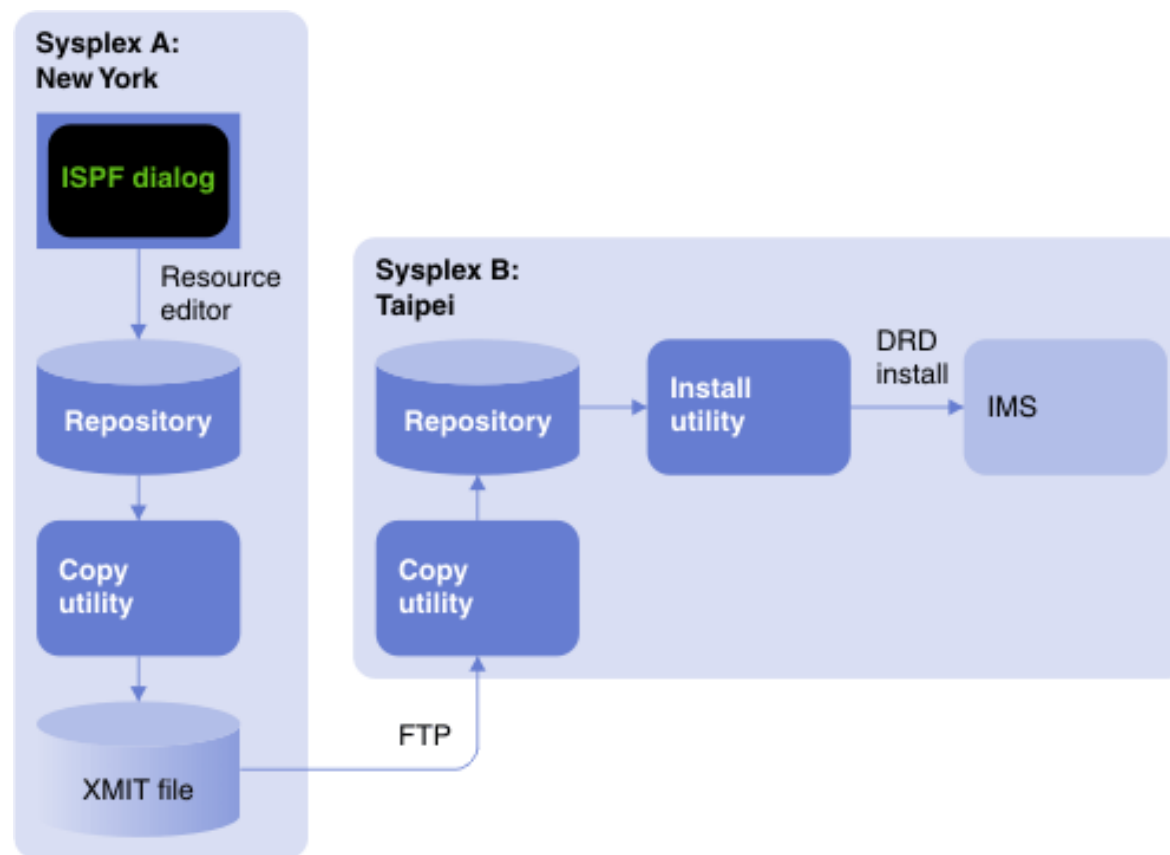
ICM Processes – Exporting from the repository

- You can export resources from the repository as either:
  - Type II commands
  - Stage 1 source

- Selectively export based on resource type and name mask

- Continue to use IMSGEN process while migrating to DRD environment in stages
  - Leverage DRD first in development and 'Sand box' systems
  - Migrate to DRD in production using staged process

Parameter management

- Enhanced parameter listing and search
  - Semantic search: finds parameters and members based on keywords; identifies missing parameters and members
  - Listing of PROCLIB members that are active on a given system
  - Edit history for all members

- Enhanced ISPF edit session that provides:
  - Checking of parameter syntax
  - Ability to insert parameters from a model
  - Context sensitive help for all parameters
  - Retains many ISPF edit functions
  - Does not alter or modify the member in anyway (unless you explicitly add or modify parameters)
  - Allows you to back up members before saving them
  - In the future will be extended to perform checking of entire PROCLIBs

Information Management

Parameter semantic search

```
   File   Help
 ----------------------------------------------------------------------
 EDIT     DVP.IBDF.VB10.PROCLIB                            Row 11 of 32
 Command ===> _____   Scroll ===> CSR

 Search . . .  DRD_____

    Member
 /  *_____     Prompt   Lib  Created     ----- Changed -----  ID
 _  DFSDFDVP              1    2009/02/11  2009/02/11 13:26:45  NMC2
    _ COMMON_SERVICE_L=...
    _ MODBLKS=...         How MODBLKS resources are changed
    _ DYNAMIC_RESOURCE=...
    _ AUTOEXPORT=...      Definitions exported at checkpoint time
    _ AUTOIMPORT=...      Definitions automatically imported in COLD
    _ DCLWA=...           Default log write ahead option for created
    _ IMPORTERR=...       Action on error during automatic import
    _ RDDSERR=...         Action on error when accessing RDDS
    _ RDDSDSN=...         List of DSNs for RDDS processing
 ----------------------------------------------------------------------
 _  DFSDF000              1
    _ COMMON_SERVICE_L=...
    _ MODBLKS=DYN                              /* DRD ENABLED;MODBLKS OLC
    _ DYNAMIC RESOURCE
```

Finds members and parameters even if they do not exist
Help for each parameter

Information Management

IBM

```
   File   Edit   Edit_Settings   Help
--------------------------------------------------------------------------------
EDIT       REA.CLIST(DFSDFBLN) - 01.01                    Columns 00001 00072
Command ===> _____ Scroll ===> CSR
CHECK   Validate the member syntax
MODEL   Insert a new parameter with syntax assistance
HELP    Press F1 to request parameter sensitive help
******  ************************** Top of Data **************************
000001 /*********************************************************************/
000002 /* Dynamic Resource Definition Section                              */
000003 /*********************************************************************/
000004 <SECTION=DYNAMIC_RESOURCES>
000005 RDDSDSN=IMSTESTL.IMS1.RDDS1,
======  +..................................................................
==MSG>  Unmatched parenthesis. RDDSDSN=IMSTESTL
000006         IMSTESTL.IMS1.RDDS2,
000007         IMSTESTL.IMS1.RDDS3,)
000008 AUTOIMPORT=AUTO
000009 AUTOEXPORT=AUTO
000010 IMPORTER=ABORT
======  +..................................
==MSG>  Unknown parameter: 'IMPORTER
000011 RDDSERR=ABORT
000012 /***************************
```

New parameter smart editor
Syntax validation
Parameter value validation
Context sensitive help
Works with existing members

Inserting parameters from model

```
.--------------------------- Select a parameter ---------------------------.
|                                                          Row 1 to 7 of 7  |
|                                                                           |
| Command ===> _____|
|                                                                           |
| Select a parameter then press Enter.                                      |
|                                                                           |
|        Parameter          Description                                     |
|   .    COMMON_SERVICE_L  Common Service Layer options                     |
|   .    DATABASE          Parameters for databases                         |
|   .    DIAGNOSTICS_STAT  IMS Abend Search and Notification options        |
|   .    DYNAMIC_RESOURCE  Options for import and export definitions        |
|   .    FASTPATH          Specify Fast Path buffer management              |
|   .    SHARED_QUEUES     Shared Queues section                            |
|   .    USER_EXITS        Specify user exits for IMS restart               |
|  *************************** Bottom of data ***************************    |
|                                                                           |
|                                                                           |
'---------------------------------------------------------------------------'
```

Context sensitive help

<pre>
              Help - AUTOEXPORT (DFSDFxxx)

AUTOEXPORT=
   Specifies whether all resource and descriptor definitions should be
   exported at checkpoint time (simple or normal shutdown). The automatic
   export takes place only if definitional changes were made to any
   resource since the time of the last checkpoint, except for restart
   checkpoint. After IMS completes restart processing, a restart checkpoint
   is taken. Export occurs after the restart checkpoint if automatic export
   is enabled.

   AUTO IMS determines whether or not to enable automatic export. Automatic
   export is enabled if two or more system resource definition data sets
   are defined and accessible. AUTOEXPORT=AUTO is the default.

   NO Automatic export is disabled. No resource or descriptor definitions
   are exported at checkpoint time.

   RDDS Automatic export is enabled if two or more system resource
   definition data sets are defined and accessible. All resource and
   descriptor definitions are exported to the oldest system resource
   definition data set at checkpoint time.
</pre>

Conclusions

- IMS Configuration Manager simplifies the management of IMS resources and parameters

  – Removes the need to keep in-house process current with new releases

- The resource installation process makes it easy to synchronize offline source with online systems

- The availability to rollback changes in cases of an error ensures changes are introduced as a unified set

- IMS Configuration Manager provides a foundation from which an IMS administration and management system can evolve

  – Customer requirements will guide this evolution

More information

- IBM DB2 and IMS Tools website:
  http://www.ibm.com/software/data/db2imstools/

- IBM IMS Configuration Manager V1R3 announcement:
  http://www-01.ibm.com/common/ssi/cgi-
  bin/ssialias?infotype=an&subtype=ca&appname=xldata&ht
  mlfid=897/ENUS210-023

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