

# IMS Catalog & Managed ACBs: The Migration Journey

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# Agenda

- Create and populate IMS Catalog and Directory
  - Shared catalog and directory
  - IMS Catalog Populate utility
- Database utilities supporting IMS managed ACBs
- Processing IMS Catalog database

# IMS Catalog and Directory briefly

## IMS catalog

- Introduced in IMS v12
- Essential for SQL generic DML access to IMS database
  - Also enables new features like DBD versioning
- IMS database to keep DB schema and program view information
  - Intended to be initially loaded from DBDs and PSBs
  - Additional information to be added afterward: better fields description/mapping etc.
  - Implemented as HALDB; using DBRC is highly recommended, but not required by IMS
- Working with ACB library
  - Doesn't change ACBGEN process for updating DB schema

# IMS Catalog and Directory briefly

## IMS directory

- Introduced in IMS v15
- Essential for SQL generic DDL access to IMS database
- Addition to IMS Catalog and together known as “IMS Managed ACBs”
- System managed collection of data sets
  - Including partition data set to keep active/staging ACBs
  - Including data set for management – BSDS
- Changes ACBGEN process for adding/updating DB schema and PGM view

# IMS Catalog and Directory configuration variants

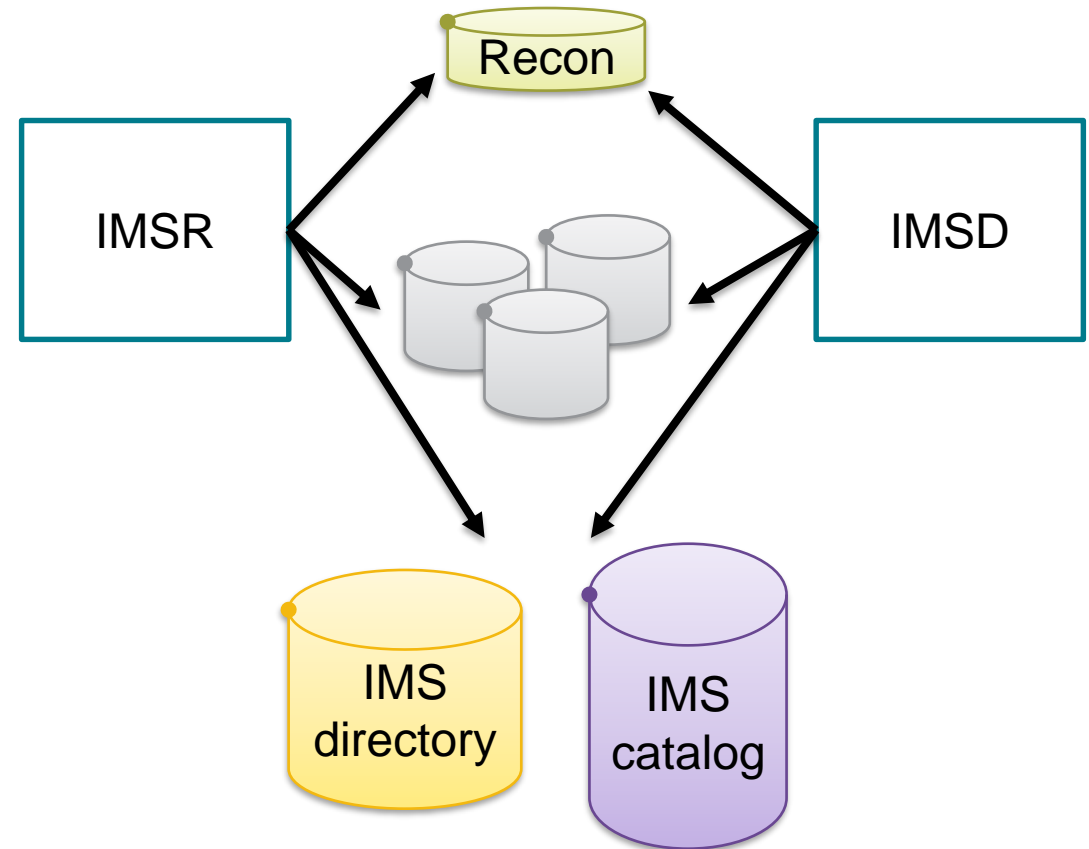
## Decision

- Depending on your IMS system definition
  - Single/multiple IMS regions
  - Shared/separate recon data set
  - Type of database sharing, if any
- IMS catalog & directory scenarios
  - Single combination serving one IMS region
  - Single combination serving multiple IMS regions
    - All DB schemas and PGM views are granted to be the same for all IMS regions
    - It's a single point of failure
  - Multiple combinations serving multiple IMS regions
    - User responsibility to keep multiple IMS catalogs and directories in sync when needed
    - Resolves single point of failure
  - Probably will copy ACB library requirements/configuration style
    - Shared ACB library -> shared IMS catalog & directory

# IMS Catalog and Directory configuration variants

Scenario – shared IMS catalog & directory

- Two IMS regions
  - Registered in one DBRC region using shared recon data set
  - Database data set **block** sharing – using IRLM
  - Using shared ACB libraries (ACBSHR=Y)
  - Using CSL: SCI, OM, RM and RS
- Both IMS regions can access the same database data
  - DB schemas are actual for both
- One IMS can be brought down for maintenance
  - IMS catalog and directory remains “up” for the other system; it’s a single point of failure



# The process in the nutshell

- Generate ACBs for IMS catalog DBDs and PSBs
- Define IMS catalog HALDB database in DBRC
- Configure IMS PROCLIB
- Allocate data sets and initially load them
- Switch IMS region configuration
  - Optional step
  - IMS managed ACBs are usable in batch DLI processing standalone



# ACB gen for IMS catalog DBD and PSB

- ACBs shipped by IBM
- Used by IMS and IMS Tools to access IMS catalog database
  - Catalog & directory will contain information about itself too
  - Including tools for building catalog itself
- Sources you will find in hlq.SDFSSRC
  - DBDs: DFSCD000 and DFSCX000
  - PSBs: DFSCPL00, DFSCP000, DFSCP001, DFSCP002 and DFSCP003
- Perform DBD and PSB generation by your procedure
- Perform ACB generation
  - Could be into temporary libraries later concatenated for C&D loading by population utility

# Define IMS catalog HALDB database in DBRC

- PREFIX – important term, which says what are data set names for catalog database and directory data set
  - It's based on DSNPREFIX for the first partition of main DB
- Partitioning schema
  - Needs to be known at this stage
  - Could be one partition – all segments for DBDs and PSBs mixed together
  - Could be 1 part for DBDs and 1 for PSBs
  - Could be more – depends on number of DBDs/PSBs
    - Reiterate after two steps when ACB analysis is done

# Define IMS catalog HALDB database in DBRC

## Main database

```
INIT.DB      DBD(DFSCD000)  TYPHALDB  SHARELVL(3)
```

```
INIT.PART DBD(DFSCD000)  PART(DFSCD01)  -  
  DSNPREFIX(IDI.IMSR.DFSCD000)  -  
  BLOCKSIZE(8192,8192,8192,8192)  -  
  KEYSTRNG('DBD          ZZZZZZZZZ')  -  
  GENMAX(5)
```

```
INIT.PART DBD(DFSCD000)  PART(DFSCP01)  -  
  DSNPREFIX(IDI.IMSR.DFSCD000)  -  
  BLOCKSIZE(8192,8192,8192,8192)  -  
  KEYSTRNG('PSB          ZZZZZZZZZ')  -  
  GENMAX(5)
```

# Define IMS catalog HALDB database in DBRC

## Secondary index

```
INIT.DB DBD(DFSCX000) TYPHALDB SHARELVL(3)
```

```
INIT.PART DBD(DFSCX000) PART(DFSCX01) -  
  DSNPREFIX(IDI.IMSR.DFSCX000) GENMAX(3) -  
  KEYSTRNG(X'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF') )
```

# Define IMS catalog HALDB database in DBRC

## Output data sets

```
IDI . IMSR . DFSCD000 . A00001
IDI . IMSR . DFSCD000 . A00002
IDI . IMSR . DFSCD000 . B00001
IDI . IMSR . DFSCD000 . B00002
IDI . IMSR . DFSCD000 . C00001
IDI . IMSR . DFSCD000 . C00002
IDI . IMSR . DFSCD000 . D00001
IDI . IMSR . DFSCD000 . D00002
IDI . IMSR . DFSCD000 . L00001
IDI . IMSR . DFSCD000 . L00001 . DATA
IDI . IMSR . DFSCD000 . L00001 . INDEX
IDI . IMSR . DFSCD000 . L00002
IDI . IMSR . DFSCD000 . L00002 . DATA
IDI . IMSR . DFSCD000 . L00002 . INDEX
IDI . IMSR . DFSCD000 . X00001
IDI . IMSR . DFSCD000 . X00001 . DATA
IDI . IMSR . DFSCD000 . X00001 . INDEX
IDI . IMSR . DFSCD000 . X00002
IDI . IMSR . DFSCD000 . X00002 . DATA
IDI . IMSR . DFSCD000 . X00002 . INDEX
IDI . IMSR . DFSCX000 . A00001
IDI . IMSR . DFSCX000 . A00001 . DATA
IDI . IMSR . DFSCX000 . A00001 . INDEX
IDI . IMSR . DFSCD000 . BSDS
IDI . IMSR . DFSCD000 . STG
IDI . IMSR . DFSCD000 . DI1001
IDI . IMSR . DFSCD000 . DI1002
```

# Configure IMS PROCLIB

- In PROCLIB(DFSDFxxx) update section <CATALOG> or <CATALOGyyyy>
  - xxx is DFSDF= parameter
  - yyyy is IMSID for online IMS region to distinguish settings for various regions in one member
- CATALOG=Y/N
  - Enables or disables IMS Catalog
  - You should update to yes to proceed with setting and populating
- ALIAS=zzzz
  - 4 characters prefix for IMS Catalog database name.
  - Default is DFSC (recommended to write that in for readability)
  - Differentiate separate catalog databases for IMS regions
- ACBMGMT=ACBLIB/CATALOG
  - What is the source of ACBs for IMS system: ACB library or IMS Catalog
  - Until IMS Catalog and directory are created and populated, keep ACBLIB
  - To utilize catalog and directory by IMS region, switch to CATALOG

# Configure IMS PROCLIB

- DATACLAS=, MGMTCLAS=, STORCLAS=
  - Defines Data class, Management class and Storage class
  - Populate utility can allocate IMS catalog and directory automatically using it
- SPACEALLOC=(PRIMARY= , SECONDARY= )
  - Scale for IMS Catalog database data sets allocations when automatically created by DFS3PU00
  - Specified in percentage of calculated minimal required size for input ACB library
  - Default 500,50 means that initially IMS Catalog will accommodate 5-times your ACB library members
- and other options

# Allocate data sets and initially load them

- IBM utility DFS3PU00
  - Versatile for ACB library analysis, initial loading and updating from ACB library
- Manual vs. automatic allocation of catalog and directory data sets
  - IMS catalog is PHIDAM/OSAM
  - IMS directory is PDSe version 2
  - Only ILDS and primary and secondary indexes are VSAMs
- Create ACB library analysis job first
  - Validates ACB members
  - Stats about the size of IMS catalog
  - Utility already considers partitioning setup and reports results per partition + summary
- One job – two usage
  - DSFCP000 is for analysis
  - DFSCPL00 is for initial load



# Allocate data sets and initially load them

## Analysis execution

```
//CATALOG EXEC PGM=DFS3PU00,  
// PARM=(DLI,DFS3PU00,DFSCP000,,,,,,,,,,,,,Y,N,,,,,,,,,,,,,'DFSDF=CAT')  
//STEPLIB DD DISP=SHR,DSN=&IMSID..SDFSRESL  
//DFSRESLB DD DISP=SHR,DSN=&IMSID..SDFSRESL  
//IMS DD DISP=SHR,DSN=&IMSID..DBDLIB  
// DD DISP=SHR,DSN=&IMSID..PSBLIB  
//PROCLIB DD DISP=SHR,DSN=IDI.IMSR.PROCLIB.INITLOAD  
//SYSABEND DD SYSOUT=*  
//SYSPRINT DD SYSOUT=*  
//IEFRDER DD DISP=(,CATLG),DSN=&IMSID..SLDSP.LOG(+1),  
// SPACE=(TRK,(5,5),RLSE),UNIT=SYSALLDA  
//DFSVSAMP DD DISP=SHR,DSN=IDI.IMSR.PROCLIB.INITLOAD(DFSVSAMP)  
//IMSACB01 DD DISP=SHR,DSN= =&IMSID..ACBLIBA  
//RECON1 DD DISP=SHR,DSN=&RECONPFX..RECON1  
//RECON2 DD DISP=SHR,DSN=&RECONPFX..RECON2  
//RECON3 DD DISP=SHR,DSN=&RECONPFX..RECON3  
//SYSINP DD *
```

**MANAGEDACBS=SETUP**

# Allocate data sets and initially load them

## Analysis execution - output

TOTALS FOR ALL PARTITIONS

ESTIMATED NUMBER OF SEGMENTS TO INSERT INTO THE CATALOG					
SC	SEGMENT	INSERTED SEGMENTS	DSG	PARENT	AVERAGE SEGS/PARENT
---	-----	-----	---	-----	-----
1	HEADER	788	A		
2	DBD	360	A	HEADER	0.5
3	CAPXDBD	4	D	DBD	0.0
5	DSET	178	D	DBD	0.5
7	AREA	1602	D	DBD	4.5
9	SEGM	1812	B	DBD	5.0
10	CAPXSEGM	6	D	SEGM	0.0
12	FLD	7102	C	SEGM	3.9
14	MAR	7102	C	FLD	1.0
17	LCHILD	275	B	SEGM	0.2
20	XDFLD	108	B	LCHILD	0.4
37	PSB	428	A	HEADER	0.5
39	PCB	550	B	PSB	1.3
41	SS	3009	B	PCB	5.5
43	SF	2	B	SS	0.0
45	DBDXREF	801	D	PSB	1.9

ESTIMATED SPACE REQUIREMENT TO HOLD INSERTED SEGMENTS		
DSG	BLKSIZE	BLOCKS
---	-----	-----
A	8192	64
B	8192	260
C	8192	1582
D	8192	25

DSG	RECORDS
---	-----
L	801
X	789

# Allocate data sets and initially load them

## Initial load execution

```
//CATALOG EXEC PGM=DFS3PU00,  
// PARM=(DLI,DFS3PU00,DFSCPL00,,,,,,,,,,,,,Y,N,,,,,,,,,,,,,'DFSDF=CAT')  
//STEPLIB DD DISP=SHR,DSN=&IMSID..SDFSRESL  
//DFSRESLB DD DISP=SHR,DSN=&IMSID..SDFSRESL  
//IMS DD DISP=SHR,DSN=&IMSID..DBDLIB  
// DD DISP=SHR,DSN=&IMSID..PSBLIB  
//PROCLIB DD DISP=SHR,DSN=IDI.IMSR.PROCLIB.INITLOAD  
//SYSABEND DD SYSOUT=*  
//SYSPRINT DD SYSOUT=*  
//IEFRDER DD DISP=(,CATLG),DSN=&IMSID..SLDSP.LOG(+1),  
// SPACE=(TRK,(5,5),RLSE),UNIT=SYSALLDA  
//DFSVSAMP DD DISP=SHR,DSN=IDI.IMSR.PROCLIB.INITLOAD(DFSVSAMP)  
//IMSACB01 DD DISP=SHR,DSN= =&IMSID..ACBLIBA  
//RECON1 DD DISP=SHR,DSN=&RECONPFX..RECON1  
//RECON2 DD DISP=SHR,DSN=&RECONPFX..RECON2  
//RECON3 DD DISP=SHR,DSN=&RECONPFX..RECON3  
//SYSINP DD *
```

**MANAGEDACBS=SETUP**

# Switch IMS region configuration

- ACBMGMT=CATALOG
  - Enables IMS management of ACBs
  - Update DFSDFxxx section <CATALOG>
  - Restart IMS region
- Drop ACBLIB definitions (optional)
  - Comment ACBLIBx DD allocations
  - Drop DFSMDA members
- Keep ACBSHR=Y setting for all shared IMS regions within IMSplex
  - Global coordination notifies to refresh resource definitions

# Database utilities supporting IMS managed ACBs



# Database utilities supporting mACBs

- CA Database Analyzer™ for IMS for z/OS and the following components:
  - Randomizer Analysis Program (RAP)
  - Database Surgeon
  - Control Block Validity Manager
- CA Database Copier™ for IMS for z/OS
- CA Database Organizer™ for IMS for z/OS and the following components:
  - Online Reorg and Batch Reorg
  - Database Extractor
  - Batch Log Tracker (BLT)
- CA High Performance Recovery for IMS for z/OS and the following component:
  - Change Accumulation
- CA Secondary Index Builder for IMS for z/OS
- CA Mainframe Program Restart Manager for IMS for z/OS

# Database utilities supporting mACBs

- Identify IMS Catalog and Directory via:
  - DFS3CDX0 exit
    - Create source code
    - Compile program to fill the the binary structure about mACB environment
    - Global scope
    - Distributed in STEPLIB concatenation as a load module
  - DFSDF= control input parameter
    - Can be within xxxCTRL DD
    - Can be within IDIPARM DD
    - Requires PROCLIB DD
    - Requires execution with DBRC and recon datasets
  - BSDSHLQ= control input parameter
    - For utilities which don't support DBRC

# Database utilities supporting mACBs

## CA Database Analyzer for IMS for z/OS

```
//ANALZ      EXEC  PGM=IDIDBA,REGION=0M
//STEPLIB    DD  DISP=SHR,DSN=&UTIL..CIMTLOAD
//          DD  DISP=SHR,DSN=&IMSID..SDFSRESL
//DFSRESLB   DD  DISP=SHR,DSN=&IMSID..SDFSRESL
//PROCLIB    DD  DISP=SHR,DSN=&IMSID..PROCLIB
//RECON1     DD  DISP=SHR,DSN=&RECONPFX..RECON1
//RECON2     DD  DISP=SHR,DSN=&RECONPFX..RECON2
//RECON3     DD  DISP=SHR,DSN=&RECONPFX..RECON3
//*
//DBAMSGS    DD  SYSOUT=*
//DBARPTS    DD  SYSOUT=*
//DBAERROR   DD  SYSOUT=*
//SYSPRINT   DD  SYSOUT=*
//DBACTRL    DD  *
//          DFSDF=099,
//          FUNCTION=ANALYZEALL,
//          DBDNAME=H03,
//          DBRC=YES
//*
```



# Database utilities supporting mACBs

## CA Database Analyzer for IMS for z/OS

```
//ANALZ      EXEC  PGM=IDIDBA,REGION=0M
//STEPLIB    DD  DISP=SHR,DSN=&UTIL..CIMTLOAD
//          DD  DISP=SHR,DSN=&IMSID..SDFSRESL
//DFSRESLB   DD  DISP=SHR,DSN=&IMSID..SDFSRESL
//PROCLIB    DD  DISP=SHR,DSN=&IMSID..PROCLIB
//RECON1     DD  DISP=SHR,DSN=&RECONPFX..RECON1
//RECON2     DD  DISP=SHR,DSN=&RECONPFX..RECON2
//RECON3     DD  DISP=SHR,DSN=&RECONPFX..RECON3
//IDIPARM    DD  *
  DFSDF=099
// *
//DBAMSGS    DD  SYSOUT=*
//DBARPTS    DD  SYSOUT=*
//DBAERROR   DD  SYSOUT=*
//SYSPRINT   DD  SYSOUT=*
//DBACTRL    DD  *
  FUNCTION=ANALYZEALL,
  DBDNAME=H03,
  DBRC=YES
// *
```

# Database utilities supporting mACBs

## CA Database Analyzer for IMS for z/OS

DATABASE ANALYZER Version 20.0  
CA Technologies

DATABASE ANALYZER MESSAGES

```
DBA0104I DATABASE ANALYZER MESSAGES.
IDI0602I "SYSUDUMP" HAS BEEN ALLOCATED AS SYSOUT=*.
IDI0603I THE FOLLOWING WERE ALLOCATED AS DD DUMMY: ABNLIGNR ESPYIBM  ESPYIGNR CAOESTOP DMBENAN  IDIOFF  PSPOFF
ITKE601I Version 20.0, IMS 15.2, z/OS 2.4 , APF AUTHORIZED
DBA0601I CONTROL STATEMENT ANALYSIS STARTED.
  FUNCTION=ANALYZEALL,
  DBDNAME=H03,
  DBRC=YES
IDI1126I JCL DD STATEMENT FOR IDIPARM HAS BEEN FOUND.
IDI1128I USING GLOBAL PARAMETER DATASET "USERID1.H03DBA.JOB31398.D0000104.?".
IDI1121I GLOBAL PARAMETER PROCESSING STARTED.
DFSDF=099
IDI1122I GLOBAL PARAMETER PROCESSING ENDED.
DBA0602I CONTROL STATEMENT ANALYSIS COMPLETED.
IDI2403I DBRC WILL BE USED.
ITKF504I IMS CATALOG ENABLED FOR LOADING.

ITKD411I DBRC Server TCB Initialized
ITKF502I IMS CATALOG CONNECTION ESTABLISHED. BSDS=IDI.IMSR.DFSCD000
IDI8104I "TOOLKIT " DATA SPACE CREATED. SIZE = X'80000000' ( 2GB) .
ITKF000I PSEUDO ULU REGION INITIALIZATION COMPLETED FOR DATABASE H03
DBA4300I SCAN STARTED FOR DATA BASE "H03      ", DD NAME "H03DD1 ".
ITK9905I DATASET SUCCESSFULLY ALLOCATED FOR DBD = "H03      " DDNAME = "H03DD1 ".
... truncated output ...
```

# Database utilities supporting mACBs

## CA Database Analyzer for IMS for z/OS – Control Block Validity Manager

```
//DECODE      EXEC PGM=ITKICB
//STEPLIB     DD DISP=SHR,DSN=&UTIL..CIMTLOAD
//           DD DISP=SHR,DSN=&IMSID..SDFSRESL
//DFSRESLB   DD DISP=SHR,DSN=&IMSID..SDFSRESL
//*
//ICBMSG     DD SYSOUT=*
//ICBRPTS    DD SYSOUT=*
//SRCLIB     DD SYSOUT=*
//ICBCTRL    DD *
FUNCTION=DISASSEMBLE,
DBD=H03,
BSDSHLQ=IDI.IMSR.DFSCD000
```

# Database utilities supporting mACBs

## CA Database Analyzer for IMS for z/OS – Control Block Validity Manager

Control Block Validity Manager Version 20.0 Message Log for the Control Block Validity Manager  
CA Technologies

```
ICB0000I Start of the Control Block Validity Manager
IDI0602I "SYSUDUMP" HAS BEEN ALLOCATED AS SYSOUT=*.
IDI0603I THE FOLLOWING WERE ALLOCATED AS DD DUMMY: ABNLIGNR ESPYIBM  ESPYIGNR CAOESTOP DMBENAN  IDIOFF  PSPOFF
ITKE601I Version 20.0, IMS 15.2, z/OS 2.4 , NOT APF AUTHORIZED
```

```
ICB0F01I CONTROL STATEMENT ANALYSIS STARTED.
  FUNCTION=DISASSEMBLE,
  DBD=H03,
  BSDSHLQ=IDI.IMSR.DFSCD000
```

```
IDI6908I DFSMDA MODULE NOT FOUND FOR "IDIPARM " IN STEPLIB.
```

```
ICB0F02I CONTROL STATEMENT ANALYSIS COMPLETED.
```

```
ICB1403I INPUT DATASET: IDI.IMSR.DFSCD000
```

```
ICB1404I OUTPUT DATASET: SYSOUT=*
```

```
ITKF504I IMS CATALOG ENABLED FOR LOADING.
```

```
ITKF502I IMS CATALOG CONNECTION ESTABLISHED. BSDS=IDI.IMSR.DFSCD000
```

```
ITKF513I IMS CATALOG CONNECTION CLOSED.
```

```
IDI7600I FUNCTION RETURN CODE = 0000.
```

```
IDI7602I CUMULATIVE RETURN CODE = 0000.
```

# Processing IMS Catalog database



# Processing IMS Catalog database

- Using IMS Catalog for online IMS region
  - For IMS catalog maintenance shut down IMS region
    - Testing regions
    - Can have dedicated catalogs for every IMS region in data sharing plex
  - Consider IMS Catalog as online DB
    - Concurrent Image Copy, online reorganization
  - DBRC authorization issues for “batch utilities”
    - especially when using BMP job for update ACB members
    - Switch IMS Catalog DB to read-only
    - UPDATE DB NAME(DFSC\*) START(ACCESS) SET(ACCTYPE(READ))

# Processing IMS Catalog database

## CA Database Analyzer for IMS for z/OS

```
//ANALZ      EXEC  PGM=IDIDBA,REGION=0M
//STEPLIB    DD  DISP=SHR,DSN=&UTIL..CIMTLOAD
//          DD  DISP=SHR,DSN=&IMSID..SDFSRESL
//DFSRESLB   DD  DISP=SHR,DSN=&IMSID..SDFSRESL
//PROCLIB    DD  DISP=SHR,DSN=&IMSID..PROCLIB
//RECON1     DD  DISP=SHR,DSN=&RECONPFX..RECON1
//RECON2     DD  DISP=SHR,DSN=&RECONPFX..RECON2
//RECON3     DD  DISP=SHR,DSN=&RECONPFX..RECON3
//IDIPARM    DD  *
  DFSDF=099
// *
//DBAMSGS    DD  SYSOUT=*
//DBARPTS    DD  SYSOUT=*
//DBAERROR   DD  SYSOUT=*
//SYSPRINT   DD  SYSOUT=*
//DBACTRL    DD  *
  FUNCTION=ANALYZEALL,
  DBDNAME=DFSCD000,
  DBRC=YES
// *
```

# Processing IMS Catalog database

## CA Database Analyzer for IMS for z/OS - messages

```
... truncated output ...
DBA0602I CONTROL STATEMENT ANALYSIS COMPLETED.
IDI2403I DBRC WILL BE USED.
ITKF504I IMS CATALOG ENABLED FOR LOADING.

ITKD411I DBRC Server TCB Initialized
ITKF502I IMS CATALOG CONNECTION ESTABLISHED. BSDS=IDI.IMSR.DFSCD000
IDI8104I "TOOLKIT " DATA SPACE CREATED. SIZE = X'80000000' ( 2GB) .
IDI8104I "NDXSPC01" DATA SPACE CREATED. SIZE = X'80000000' ( 2GB) .
ITKF000I PSEUDO ULU REGION INITIALIZATION COMPLETED FOR DATABASE DFSCD000
ITK1300I DD=DFSCD01A / DSN=IDI.IMSR.DFSCD000.A00001 SUCCESSFULLY ALLOCATED.
ITK1300I DD=DFSCD01B / DSN=IDI.IMSR.DFSCD000.B00001 SUCCESSFULLY ALLOCATED.
ITK1300I DD=DFSCD01C / DSN=IDI.IMSR.DFSCD000.C00001 SUCCESSFULLY ALLOCATED.
ITK1300I DD=DFSCD01D / DSN=IDI.IMSR.DFSCD000.D00001 SUCCESSFULLY ALLOCATED.
ITK1300I DD=DFSCD01L / DSN=IDI.IMSR.DFSCD000.L00001 SUCCESSFULLY ALLOCATED.
ITK1300I DD=DFSCD01X / DSN=IDI.IMSR.DFSCD000.X00001 SUCCESSFULLY ALLOCATED.
ITK0304I HALDB PARTITION SELECTION COMPLETE, DBD=DFSCD000, PARTITION=DFSCD01 .
IDI8104I "MILES001" DATA SPACE CREATED. SIZE = X'80000000' ( 2GB) .
DBA4300I SCAN STARTED FOR DATA BASE "DFSCD000", DD NAME "DFSCD01L".
IDI2603I DBRC SIGNON SUCCESSFUL, SSID = CATDBA .
IDI2506I DATA BASE "DFSCD01 " ACCESS AUTHORIZED BY DBRC.
ITKE402I zIIP processing is disabled.
DBA1904I THERE WERE NO RECS READ FROM THE DATA SET.
DBA1911I THERE WERE NO THRESHOLD WARNINGS FOUND.
DBA1900I THERE WERE NO REC INTEGRITY ERRORS FOUND.
DBA1910I THERE WERE NO RBA STATISTICAL ERRORS FOUND.
DBA1902I THERE WERE NO POINTER ERRORS FOUND.
DBA1906I THERE WERE NO SEGMENTS THAT WERE TOO SHORT OR TOO LONG.
DBA1905I THERE WERE NO RECS SNAPPED BY USER REQUEST.
DATABASE ANALYZER Version 20.0 DATABASE ANALYZER MESSAGES
CA Technologies

DBA4401I SCAN COMPLETED FOR DATA BASE "DFSCD000", DD NAME "DFSCD01L".
... truncated output ...
```



# Processing IMS Catalog database

## CA Database Analyzer for IMS for z/OS - reports

DATABASE ANALYZER Version 20.0  
CA Technologies

DATA BASE SUMMARY

PAGE: 1  
DATE: 19 MAY 2021  
TIME: 12.04.52

### DBD SPECIFICATIONS

DBD NAME : DFSCD000  
ORGANIZATION: PHIDAM  
ACC. METHOD : OSAM  
DBDGEN DATE : 05/17/21  
DBDGEN TIME : 05.06  
DBD IMS REL : 15.1  
FREE SPACE FACTOR: 0  
FREE BLOCK FACTOR: 0  
# OF RAPS/BLK: 0  
PARTITION NM: DFSCD01  
PARTITION ID: 1  
REORG NUMBER: 1

### DATA SET CHARACTERISTICS

ACC. METHOD : OSAM  
DATA SET : IDI.IMSR.DFSCD000.A00001  
VOLUME(S) : IDI107  
DSG. DD NAME: DFSCD01A  
DSGROUP : A  
DEVICE TYPE : 3390  
RECORD SIZE : 8,192  
BLOCK SIZE : 8,192  
BLOCKS PER TRACK : 6 (ACTUAL)  
BLOCKS PER CYLINDER: 90 (ACTUAL)

### DATA BASE SPACE INFORMATION

ALLOCATED BYTES : 344,064  
BYTES OF DATA : 270,720  
IMS OVERHEAD BYTES : 56,162  
FREE SPACE BYTES : 17,182 - 4.99%

### DATA SET SPACE INFORMATION

ALLOCATED SPACE : 35 TRKS (2.3 CYLS)  
ALLOCATION USED : 7 TRKS (0.5 CYLS)  
ALLOCATION NOT USED: 28 TRKS - 80.00%  
NUMBER OF EXTENTS : 1  
\*TOTAL SPACE UNUSED : 1,393,438 BYTES - 80.61%

\* INCLUDES COMPLETELY UNUSED TRKS + REMAINDER OF LAST USED TRK  
+ FREE SPACE WITHIN USED BLOCKS.

### DATA BASE OVERHEAD INFORMATION

TOTAL OVERHEAD : 56,162  
BLK OVERHEAD : 454  
SEGMENT OVERHEAD : 47,520  
SLACK BYTES : 0

# Processing IMS Catalog database

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PARTITION SUMMARY REPORT

DBD DFSCD000 PARTITION SCAN RESULTS. HIGHEST RC 4.

PARTITION NAME	SCAN ID	SCAN RC	-ROOT COUNT	STATISTICS PERCENT	----- SEGMENT COUNT	STATISTICS DATA BYTES	----- PERCENT
DFSCD01	1	4	360	45.9	18,909	12,202K	90.7
DFSCP01	2	4	425	54.1	5,143	1,259K	9.3
TOTALS:	2	4	785		24,052	13,461K	

DBD DFSCX000 PARTITION SCAN RESULTS. HIGHEST RC 0.

PARTITION NAME	SCAN ID	SCAN RC	-ROOT COUNT	STATISTICS PERCENT	----- SEGMENT COUNT	STATISTICS DATA BYTES	----- PERCENT
DFSCX01	1	0	786	100.0	786	28K	100.0



# Thank you

