Chapter 9. Catalog Manager utility

The Catalog Manager utility helps you to analyze the definitions of databases (DBD) and application program views (PSBs) in the IMS catalog and the IMS directory.

Topics:
- “Catalog Manager utility overview” on page 334
- “Catalog Manager utility restrictions” on page 338
- “Validating DBDs and PSBs in the IMS catalog” on page 340
- “Comparing IMS control blocks” on page 341
- “Converting IMS control blocks to control statements” on page 342
- “JCL requirements for the Catalog Manager utility” on page 343
- “Control statements for the Catalog Manager utility” on page 347
- “JCL examples for the Catalog Manager utility” on page 356
- “Output from the Catalog Manager utility” on page 360
Catalog Manager utility overview

The Catalog Manager utility analyzes DBDs and PSBs in the IMS catalog and in the IMS directory. The utility provides three functions: validate and compare DBDs and PSBs, and convert DBDs and PSBs to IMS DBDGEN and PSBGEN control statements.

Subsections:
- “Function overview”
- “Validating DBDs and PSBs in the IMS catalog and the IMS directory” on page 335
- “Comparing IMS control blocks” on page 335
- “Converting IMS control blocks to control statements” on page 336
- “Program structure and job step” on page 336
- “Data flow” on page 336

Function overview

The Catalog Manager utility provides the following functions:
- Validating DBDs and PSBs in the IMS catalog and the IMS directory
- Comparing IMS control blocks
- Converting IMS control blocks to control statements

These functions help you analyze the definitions of databases (DBDs) and program specification blocks (PSBs) in the IMS catalog and in the IMS directory.

IMS stores DBDs and PSBs in multiple locations; the IMS catalog, the IMS directory, ACB (application control block) libraries, DBD libraries, and PSB libraries. It is extremely important that DBDs and PSBs are consistent among these locations. In addition, when data sharing is enabled, DBDs and PSBs must be consistent across multiple IMS systems.

In order to ensure that DBDs and PSBs are consistent, you need to analyze DBDs and PSBs. However, DBDs and PSBs are not human-readable and their formats are different depending on where they are stored. In ACB libraries and the IMS directory, DBDs and PSBs are stored as binary format IMS control blocks, referred to as DBD-type ACBs and PSB-type ACBs. In the IMS catalog, DBDs and PSBs are stored as database records. This makes it more difficult to analyze DBDs and PSBs across multiple locations. The Catalog Manager utility analyzes DBDs and PSBs in different formats and helps you ensure that your DBDs and PSBs are maintained correctly.

Example use cases:
- If the IMS management of ACBs is enabled and you are maintaining DBDs and PSBs by populating the IMS catalog, you must always ensure that the IMS catalog and the IMS directory are in sync with ACB libraries. The validate function of the Catalog Manager utility helps you do so. If you find out that they are out of sync, you must run the ACB Generation and Catalog Populate utility (DFS3UACB) or the IMS Catalog Populate utility (DFS3PU00) to update the IMS catalog.
- If you are migrating from ACB libraries to the IMS management of ACBs, you can use the compare function of the Catalog Manager utility to verify that the definitions are correctly stored in the IMS catalog and the IMS directory. The
compare function compares IMS control blocks in the IMS directory with those in the DBD, PSB, or ACB library, helping you ensure that the migration was done correctly.

- If data sharing is used, for instance, an IMS system (IMS-A) has the IMS management of ACBs enabled and the other IMS system (IMS-B) uses ACB libraries, you can use the compare function of the Catalog Manager utility to compare IMS control blocks between the IMS directory used by IMS-A and the ACB libraries used by IMS-B. If any differences are detected, you can identify the correct IMS control blocks from the compare reports, and also run the convert function to convert IMS control blocks to IMS DBDGEN or IMS PSBGEN control statements for further analysis. You can then run the DBDGEN, PSBGEN, or the ACBGEN utility and populate the IMS catalog by using the IMS Catalog Populate utility.

Validating DBDs and PSBs in the IMS catalog and the IMS directory

The utility checks whether the time stamps of DBDs and PSBs in the IMS catalog, the IMS directory, and ACB libraries are the same. The time stamps checked are the time stamps generated by the ACBGEN utility. The utility generates several reports, including the IMS Catalog Validation report, which contains the results of the validation process. From this report, you can easily identify DBDs and PSBs that are inconsistent.

The utility also checks the consistency of the following information:
- If database versioning is enabled, the utility checks whether the database version number is the same for each DBD.
- If the IMS management of ACBs is enabled, the utility checks whether the time stamps of DBDs and PSBs in the IMS catalog, the IMS directory, and ACB libraries are the same.
- If ACB libraries are used, the utility checks whether the time stamps of DBDs and PSBs in the IMS catalog and ACB libraries are the same.

When the IMS catalog is populated, information about the most recent DBDs and PSBs in the ACB libraries is replicated to the IMS catalog and the IMS directory. If DBDs and PSBs are populated correctly, the time stamps of DBDs and PSBs in the IMS catalog, the IMS directory, and ACB libraries are always the same.

The IMS catalog can contain more than one instance for each DBD and PSB. If multiple instances exist, the utility refers to the most recent instance and uses the time stamp and the database version number from that instance for validation.

By validating the time stamps and database version numbers with the Catalog Manager utility, you can ensure that the DBDs and PSBs that are stored in the IMS catalog and the IMS directory are maintained correctly.

Comparing IMS control blocks

The utility compares IMS control blocks — DBD-type ACBs and PSB-type ACBs — in the IMS directory with those in the ACB libraries. The utility also compares ACBs in the IMS directory with DBDs in DBD libraries or PSBs in PSB libraries. The utility generates several reports, including the Compare Listing, which reports differences (or similarities), the Compare Summary report, and the Error and Warning messages report.
The compare function is useful, for example, when you find inconsistencies in DBDs or PSBs with the validate function. You can use the compare function to identify the differences in IMS DBDGEN or IMS PSBGEN control statements by generating and reviewing the Compare Listing.

**Converting IMS control blocks to control statements**

The utility converts IMS control blocks — DBD-type ACBs and PSB-type ACBs — in the IMS directory back into IMS DBDGEN or PSBGEN control statements. You can understand the definitions of ACBs in the IMS directory with the format of IMS DBDGEN or PSBGEN control statements.

**Program structure and job step**

The Catalog Manager utility is provided as a z/OS batch utility program. The utility consists of one program, FABXCATM, which controls other load modules. This program uses an input format that is specified in the FABXCIN data set.

While the utility is running, WTO messages on the console show program processing status. Reports and error messages are written in the data sets that are defined by FABXCRP0, FABXCRP1, FABXCRP2, and FABXCSRC DD statements. To learn more about which data sets are used by each function, see "Output from the Catalog Manager utility" on page 360.

**Data flow**

The following figure shows the general data flow for the Catalog Manager utility.

The input consists of the FABXCIN control data set (contains the control statements), one of ACBLIB, DBDLIB, and PSBLIB data sets, the IMS catalog, and the IMS directory. The output consists of reports and messages.
Figure 132. Data flow for the Catalog Manager utility
Catalog Manager utility restrictions

Certain restrictions apply when you use the Catalog Manager utility.

The Catalog Manager utility has the following restrictions:

Restrictions that apply to all the functions

IMS catalog was introduced with IMS Version 12. Therefore, the Catalog Manager utility supports IMS resources that are created by IMS Version 12 or later. However, the compare function supports DBDs and PSBs that were created by an earlier version of IMS and that are stored in DBD libraries or PSB libraries.

Restrictions for the validate function

- The Catalog Manager utility checks only DBDs and PSBs that are found in the ACB libraries. DBDs and PSBs that are found in the IMS catalog or the IMS directory but not in the ACB libraries are not checked or included in the IMS Catalog Validation report.
- If you are using IMS Version 12 or 13, depending on the maintenance level of IMS, the Catalog Manager utility cannot process PSBs that contain PCBs referring to a GSAM or a logical database. This is because no time stamp information is stored for such PSBs in the IMS catalog. To validate such PSBs, apply the following APAR fixes:
  - APAR PI27237 to IMS Version 13
  - APAR PI42886 to IMS Version 12
- When IMS loads ACBs from the IMS catalog instead of from the ACB libraries, the Catalog Manager utility checks the time stamps of active ACBs. The utility does not check the time stamps of pending ACBs in the IMS directory staging data set.

Restrictions for the compare function

- When the Catalog Manager utility compares DBD-type ACBs for DEDB, the utility also uses the PSB-type ACB that references the DBD to obtain DBD VERSION or EXIT parameter value. If a problem occurs when reading the PSB-type ACB, the DBD VERSION or EXIT parameter value is not compared.
- The Catalog Manager utility cannot process the following control blocks:
  - Control blocks for a logical database in the IMS directory because no control blocks for logical databases are stored in the IMS directory.
  - Control blocks for a GSAM or a logical database in the ACB library because no ACBs for GSAM or logical database are stored in the ACB library.
  - Control blocks for a PSB that contains PCBs for a GSAM database in the ACB library because no PCBs for GSAM database are stored in the ACB library.
- The utility compares only the parameters that exist in the ACBs in ACB libraries. When the utility compares ACBs in the ACB library with those in the IMS directory, it ignores parameters that exist only in the ACBs in the IMS directory, such as GSAM PCBs.
- The reports generated by the compare function contain IMS DBDGEN and PSBGEN control statements. For the restrictions that apply to the generated control statements, see the following section.
Restrictions for generated IMS DBDGEN and IMS PSBGEN control statements

The following restrictions apply to IMS DBDGEN control statements that the Catalog Manager utility generates:

- The order of the FIELD, LCHILD, and XDFLD statements that follow the SEGM statement is not the same as the user-required order in DBD control statements. The utility generates all the FIELD statements that belong to the segment following the SEGM statements, and then produces, if they exist, the LCHILD statements with paired XDFLD statements. This does not affect the database being accessed.
- If the VERSION parameter on the DBD statement has a time stamp value, the utility converts the time stamp value to an Assembler comment statement.
- The utility cannot convert control blocks for a logical database in the IMS directory because no control blocks for a logical database are stored in the IMS directory.
- When the utility processes an ACB for DEDB, the utility also uses the PSB-type ACB that references the ACB to obtain the DBD VERSION or EXIT parameter value. If a problem occurs when reading the PSB-type ACB, the DBD VERSION or EXIT parameter value is not converted. This restriction also applies to ACBs for MSDB but only for the DBD VERSION parameter value.
- The utility cannot print the FREQ parameter because ACBs in the IMS directory contain no information about the FREQ parameter of the SEGM statement.
- The utility cannot print the SIZE parameter, the second RECORD parameter, and the DEVICE parameter of the DATASET statement because ACBs in the IMS directory contain no information about these parameters.

The following restrictions apply to IMS PSBGEN control statements that the Catalog Manager utility generates:

- The PCB label and the PCBNAMe parameter in the PCB statement are mutually exclusive. If the utility finds a PCB label parameter, the utility prints the value as a PCBNAMe parameter. If you want the PCB label parameter printed in the output, specify the PCB_LABEL=YES option for the FABXCIN control statement.
- If the PGM_COBOL=YES option is not specified in the FABXCIN control statement, the utility prints the PSBGEN statement as PSBGEN LANG=ASSEM even if the statement is defined as PSBGEN LANG=COBOL or PSB_LANG=, because there is no difference between the PSBs.
- The utility always prints the TP PCB statement as PCB TYPE=TP,LTERM=nnnn even if it is defined as PCB TYPE=TP,NAME=nnnn, because there is no difference between the PSBs.
- For a DEDB database, the utility always prints the POS parameter of the PCB statement as POS=S.
- The utility always prints the REPLACE parameter of the SENFLD statement as REPLACE=YES.
- The utility always prints the LIST parameter of the GSAM PCB statement as LIST=NO because GSAM PCBs in the IMS directory contains no information about the parameter.
Validating DBDs and PSBs in the IMS catalog

To validate DBDs and PSBs in the IMS catalog by using the Catalog Manager utility, you must prepare JCL for the Catalog Manager utility and submit the job.

Procedure

1. Create JCL for the Catalog Manager utility. You can copy sample JCL in the SHPSJCL0 library, member FABXCIVP, and modify it or create one of your own.

2. In the Catalog Manager utility JCL, code the EXEC statement and DD statements.
   
   See “JCL requirements for the Catalog Manager utility” on page 343.

3. In the FABXCIN data set, code the control statements for the Catalog Manager utility.
   
   See “Control statements for the Catalog Manager utility” on page 347.

4. Submit the job.

5. Check the job-step return code, WTO messages, and output data sets that are generated. The validation result is in the IMS Catalog Validation report in the FABXCRP1 data set.
   
   See “Output from the validate function” on page 360.

What to do next

If inconsistencies were found by the validation process, run the ACB Generation and Catalog Populate utility (DFS3UACB) or the IMS Catalog Population utility (DFS3PU00) to populate the IMS catalog.
Comparing IMS control blocks

The Catalog Manager utility compares ACBs between the IMS directory and ACB libraries to ensure the consistency of IMS control blocks. The utility also compares ACBs in the IMS directory with DBDs in DBD libraries or PSBs in PSB libraries. ACBs in the IMS directory can be the active ACBs or the staging ACBs. To compare IMS control blocks, you must prepare JCL for the Catalog Manager utility and submit the job.

Procedure

1. Create JCL for the Catalog Manager utility. You can copy the JCL example in “Example: Comparing IMS control blocks” on page 356 and modify it or create one of your own.

2. In the Catalog Manager utility JCL, code the EXEC statement and DD statements.
   See “JCL requirements for the Catalog Manager utility” on page 343.

3. In the FABXCIN data set, code the control statements for the Catalog Manager utility.
   See “Control statements for the Catalog Manager utility” on page 347.

4. Submit the job.

5. Check the job-step return code, WTO messages, and output data sets that are generated.
   Refer to the Compare Summary report for a comparison summary. If any errors or warning messages were issued, see the Error and Warning messages report. These reports are generated in the FABXCRP1 data set.
   To see the details of the differences detected, refer to the Compare Listing generated in the FABXCRP2 data set.
   See “Output from the compare function” on page 363.
Converting IMS control blocks to control statements

The Catalog Manager utility can convert runtime ACBs in the IMS directory to IMS DBDGEN control statements or to IMS PSBGEN control statements. To convert IMS control blocks, you must prepare JCL for the Catalog Manager utility and submit the job.

Procedure

1. Create JCL for the Catalog Manager utility. You can copy the JCL example in “Example: Converting IMS control blocks to control statements” on page 358 and modify it or create one of your own.

2. In the Catalog Manager utility JCL, code the EXEC statement and DD statements.

   See “JCL requirements for the Catalog Manager utility” on page 343.

3. In the FABXCIN data set, code the control statements for the Catalog Manager utility.

   See “Control statements for the Catalog Manager utility” on page 347.

4. Submit the job.

5. Check the job-step return code, WTO messages, and output data sets that are generated. The decoded source is generated in the FABXCSRC data set.

   See “Output from the convert function” on page 368.
JCL requirements for the Catalog Manager utility

When you code JCL for the Catalog Manager utility, include the EXEC statement and appropriate DD statements.

Subsections:

- "JCL example"
- “EXEC statement” on page 344
- “DD statements” on page 344

JCL example

The following figure shows a JCL example that you can use to run the Catalog Manager utility program.

```
//CATMANJ JOB ....
//STEP EXEC PGM=FABXCATM
//STPLIB DD DSN=HPS.SHPSLMD0,DISP=SHR
// DD DSN=IMS13.SDFSRESL,DISP=SHR
//DFSRESLB DD DSN=IMS13.SDFSRESL,DISP=SHR
//IMS DD DSN=PROD.PSBLIB,DISP=SHR
// DD DSN=PROD.DBDLIB,DISP=SHR
//DFSVSAMP DD *
0512,9
1024,9
2048,9
4096,9
16384,9
32768,9
IOBF=(2048,4,N,N)
IOBF=(4096,4,N,N)
IOBF=(8192,4,N,N)
IOBF=(32000,4,N,N)
/*
//PROCLIB DD DSN=IMS13.PROCLIB
//RECON1 DD DSN=PROD.RECON1,DISP=SHR
//RECON2 DD DSN=PROD.RECON2,DISP=SHR
/*
//ACBLIB DD DSN=PROD.ACBLIB
//FABXPPRM DD *
DLI,FABXCATM,DFSCPL00,........,Y,N,........,DFSF=CAT
//FABXCIN DD *
PROC FUNC=CHECK_GENTIME
DBD NAME**
PSB NAME**
END
/*
```

Figure 133. Catalog Manager utility example JCL: validating DBDs and PSBs

In this example, it is assumed that the DFSDFxxx PROCLIB member and RECON data sets were used to configure the environment for the IMS catalog. When you code the JCL, add appropriate DD statements based on how you configured the IMS catalog environment. This applies, for example, if you used the Catalog Definition exit routine (DFS3CDX0) or the IMS catalog partition definition data set (DFSHDBSC) to configure the environment for the IMS catalog.
EXEC statement

The EXEC JCL statement must specify the FABXCATM program. No PARM operand is required.

```
//stepname EXEC PGM=FABXCATM
```

You can specify IMSplex name and a group of DBRC instances to access the RECON data set. Here is an example of the statement:

```
//stepname EXEC PGM=FABXCATM,PARM=’IMSPLEX=imsplex, DBRCGRP=dbrcgrp’
```

**IMSPLEX=imsplex**

A 1 - 5 character IMSplex name used for RECON data sets.

**DBRCGRP=dbrcgrp**

A 1 - 3 character identifier (ID) assigned to a group of DBRC instances that access the same RECON data set in an IMSplex.

DD statements

Code the following DD statements to identify the source of input and the placement of output information:

**STEPLIB DD or JOBLIB DD**

Required input data set. Specify the LIU load module library data set, which contains the Catalog Manager utility, and the IMS.SDFSRESL data set. Specify the SGLXLOAD library of IMS Tools Base V1.6 or later when you use the compare function or the convert function.

Optionally, specify the following resources:

- If you use the Catalog Definition exit routine (DFS3CDX0), specify the load module data set that contains the exit routine.
- If you want the RECON data sets or the DFSHDBSC data set to be dynamically allocated, specify the MDA library.
- If you use the SCI exit routine for your IMS environment, specify the load module data set that contains the exit routine.

**DFSRESLB DD**

Required input data set. Specify the IMS.SDFSRESL data set.

**IMS DD**

Required input data set. Specify the PSB and DBD libraries that contain the DBDs and PSBs for the IMS catalog.

**DFSVSAMPP DD**

Required input data set. Specify the buffer pool parameters data set.

**RECON1 DD**

**RECON2 DD**

**RECON3 DD**

Optional input data sets. Specify the RECON data sets if the IMS catalog database is registered in the RECON data sets.

**PROCLIB DD**

Optional input data set. Specify the IMS.PROCLIB data set that contains the DFSDFxxx member if a DFSDFxxx member is used for the IMS catalog.

**DFSHDBSC DD**

Optional input data set. Specify the IMS catalog partition definition data set (DFSHDBSC) if the IMS catalog was defined with the IMS Catalog Partition Definition Data Set utility (DFS3UCD0).
ACBLIB DD
Required input data set when using the utility to perform either of the following functions:

- Validate DBDs and PSBs in the IMS catalog. Specify one or more ACB libraries that contain the DBD and PSB members to validate.
- Compare ACBs in the IMS directory with those in ACB libraries. Specify one or more ACB libraries that contain the DBD or PSB members to compare.

DBDLIB DD
Required input data set when using the utility to compare ACBs in the IMS catalog with DBDs in DBD libraries. Specify one or more DBD libraries that contain the DBD members to compare with the IMS directory.

PSBLIB DD
Required input data set when using the utility to compare ACBs in the IMS catalog with PSBs in PSB libraries. Specify one or more PSB libraries that contain the PSB members to compare with the IMS directory.

FABXPPRM DD
Optional input statement. Specify the parameters for the DL/I batch program that the Catalog Manager utility uses to read the IMS catalog database.

The parameters must include the name of the DFSDF.xxx PROCLIB member that contains the processing options for the IMS catalog. Here is an example of the parameters:

```
//FABXPPRM DD *
DLI,FABXCATM,DFSCPL00,,,,,,,,,,,Y,N,,,,,,,,,,,DFSDF=CAT
/*
```

You can specify any value for the first, second, and third positional parameters because the Catalog Manager utility supplies appropriate values for these parameters.

The format of the parameter is the same as the DFS3PPRM DD statement for the ACB Generation and Catalog Populate utility (DFS3UACB). You can reuse the parameters that you specify in the DFS3PPRM data set.

Related reading: For more information, see the topic "ACB Generation and Catalog Populate utility (DFS3UACB)" in IMS System Utilities.

You can specify the IMSplex name and the group of DBRC instances that access the RECON data set to the FABXPPRM DD statement. Here is an example of the parameters:

```
//FABXPPRM DD *
DLI,FABXCATM,DFSCPL00,,,,,,,,,,,Y,N,,,,,,,,,,,imsplex,DFSDF=CAT,dbrcgrp=dbrcgroup
/*
```

If you specify the IMSplex name and the group of DBRC instances on both the EXEC statement and the FABXPPRM DD statement, the parameters on the FABXPPRM DD statement are used.

If the Catalog Definition exit routine (DFS3CDX0) is used, you can omit the FABXPPRM DD statement. If DFS3CDX0 is not used and you omit the FABXPPRM DD statement, the Catalog Manager utility uses the following statement as the default:

```
//FABXPPRM DD *
DLI,FABXCATM,DFSCPL00,,,,,,,,,,,Y,N,,,,,,,,,,,DFSDF=CAT
/*
```
FABXCIN DD
Required input data set. Specify the data set that contains the control statements for the Catalog Manager utility. The DCB parameters must be RECFM=FB, LRECL=80, and BLKSIZE must be a multiple of 80.

Related reading: For information about the control statements of the Catalog Manager utility, see “Control statements for the Catalog Manager utility” on page 347.

FABXCRP0 DD
FABXCRP1 DD
FABXCRP2 DD
Optional output data sets. Specify these data sets for Catalog Manager utility reports. The DCB parameters must be RECFM=FBA, LRECL=133, and BLKSIZE must be a multiple of 133.

If the DD statements are not specified, the Catalog Manager utility allocates SYSOUT=* to the DD statements and generates the reports.

Related reading: For information about the reports that are generated by the Catalog Manager utility, see “Output from the Catalog Manager utility” on page 360.

FABXCSRC DD
Optional output data set. This data set is used only for the convert function. Specify the data set in which the utility generates IMS DBDGEN control statements and IMS PSBGEN control statements. The DCB parameters must be RECFM=FB, LRECL=80, and BLKSIZE must be a multiple of 80.

DBDSRC DD
PSBSRC DD
Optional output data sets. These data sets are used only for the convert function. Specify the data sets in which the utility generates IMS DBDGEN control statements and IMS PSBGEN control statements. DBDSRC DD is for DBD members and PSBSRC DD is for PSB members. These data sets should be PDS or PDSE. The record format is fixed-blocked, and the logical record length is 80. The block size, if coded, must be a multiple of 80.

IMS DBDGEN and IMS PSBGEN control statements generated in these data sets are identical to those generated in the FABXCSRC data set, but in DBDSRC and PSBSRC data sets, a data set member is created for each DBD or PSB.

SYSUDUMP DD
SYSABEND DD
SYSDMUMP DD
Optional output data sets. Define dump data sets.
Control statements for the Catalog Manager utility

The control statements for the Catalog Manager utility are defined in the FABXCIN data set.

Refer to the following topics for FABXCIN control statements:
- “Control statements for the validate function”
- “Control statements for the compare function” on page 348
- “Control statements for the convert function” on page 352

Control statements for the validate function

Use the following information to prepare control statements for the validate function of the Catalog Manager utility.

Subsections:
- “Syntax rules”
- “Control statement example”
- “Statements, keywords, and parameters”
- “Tips for using wildcard characters” on page 348

Syntax rules

The control statements for the Catalog Manager utility must adhere to the following syntax rules:
- Control statements can be coded on any columns in the range of 2 - 80.
- A statement with an asterisk (*) in column 1 is treated as a comment.
- Each statement consists of a statement type, a keyword, and a parameter as follows:
  
  `statement-type keyword=parameter`

Control statement example

The following figure shows an example of the FABXCIN control statements to validate DBD and PSBs.

```plaintext
//FABXCIN DD *
  PROC FUNC=CHECK_GENTIME *
    DBD NAME=HDAMDB1
    PSB NAME=*
  END
/*
```

*Figure 134. Control statement example (validate function)*

Statements, keywords, and parameters

PROC statement

Required statement. This statement must be coded on the first line.

To invoke the validate function, specify: FUNC=CHECK_GENTIME
The utility validates DBD and PSB members by comparing the ACBGEN time stamp of each DBD and PSB member in the ACB libraries to the time stamp of the corresponding DBD and PSB resource in the IMS catalog or the IMS directory.

**DBD statement**
Optional statement. Use this statement to select specific DBDs. Specify this statement with the following keyword and parameter:

**NAME=resource_name**
Specify a DBD name. You can use wildcard characters to create a pattern-matching expression that specifies more than one DBD.

**PSB statement**
Optional statement. Use this statement to select specific PSBs. Specify this statement with the following keywords and parameters:

**NAME=resource_name**
Specify a PSB name. You can use wildcard characters to create a pattern-matching expression that specifies more than one PSB.

**END statement**
Optional statement. Use this statement to indicate the end of the control statements.

**Tips for using wildcard characters**
To specify multiple DBDs or PSBs, specify a wildcard in any position of a character string. The asterisk (*) and the percent sign (%) are supported as wildcard characters. An asterisk represents 0 - 8 characters, and a percent sign represents a single character. If two or more asterisks are specified sequentially, only the first asterisk is recognized.

For example, you can specify the wildcard characters in the following ways:

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Coding example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validate all DBD members in the ACB libraries</td>
<td>DBD NAME=**</td>
</tr>
<tr>
<td>Validate DBDs that have a name that begins with the letter H</td>
<td>DBD NAME=H*</td>
</tr>
<tr>
<td>Validate PSBs that have a name that begins with the letters ABC, have any letter as the fourth character, and contain 001 as the fifth to seventh characters</td>
<td>PSB NAME=ABC%001</td>
</tr>
</tbody>
</table>

**Control statements for the compare function**
Use the following information to prepare control statements for the compare function of the Catalog Manager utility.

Subsections:
- “Syntax rules” on page 349
- “Control statement example” on page 349
- “Statements, keywords, and parameters” on page 349
- “Tips for using wildcard characters” on page 351
Syntax rules

The control statements for the Catalog Manager utility must adhere to the following syntax rules:

- Control statements can be coded on any columns in the range of 2 - 80.
- A statement with an asterisk (*) in column 1 is treated as a comment.
- Each statement consists of a statement type, a keyword, and a parameter as follows:

  statement-type keyword=parameter

Control statement example

The following figure shows an example of the FABXCIN control statements to compare ACBs.

```
//FABXCIN  DD *
  PROC    FUNC=COMPARE,INPUT1=DIRECTORY_ACTIVE,INPUT2=ACBLIB *
    DBD NAME1=HDAMDB1,NAME2=HDAMDB0
    DBD NAME1=TESTDB1
    PSB NAME1=PSB*
  END
/*
```

Figure 135. Control statement example (compare function)

Statements, keywords, and parameters

PROC statement

Required statement. This statement must be coded on the first line.

To invoke the compare function, specify: FUNC=COMPARE

The utility compares ACBs in the IMS directory with ACBs in the ACB library, DBDs in the DBD library, or with PSBs in the PSB library.

FUNC=COMPARE must be accompanied with the following keywords and parameters. The utility compares resources in the library specified by the INPUT1 keyword with the library specified by the INPUT2 keyword.

Note: Abbreviations are shown in parentheses.

INPUT1=

Specify either of the following values to indicate whether to use active ACBs or staging ACBs in the IMS directory.

DIRECTORY_ACTIVE (DIR_ACT)

Specifies to compare active ACBs in the IMS directory data sets.

DIRECTORY_STAGING (DIR_STG)

Specifies to compare staging ACBs in the staging data set.

INPUT2=

Specify the library type to compare.

ACBLIB

Specifies to compare ACBs in the ACB library.
**DBDLIB**
Specifies to compare DBDs in the DBD library.

**PSBLIB**
Specifies to compare PSBs in the PSB library.

**DBD statement**
Optional statement. Use this statement to select specific DBDs. Specify this statement with the following keywords and parameters:

- **NAME1=resource_name**
- **NAME2=resource_name**

Specify a DBD name.

NAME1 specifies the resource name for the library that the INPUT1 statement specifies. NAME2 specifies the resource name for the library that the INPUT2 statement specifies. If NAME2 is omitted, the value you specify for NAME1 is used for NAME2.

For example, the following control statements are for comparing DBD DBDHDAM in the IMS directory active data sets with DBD DBDHDM2 in the ACB library:

```
PROC FUNC=COMPARE,INPUT1=DIRECTORY_ACTIVE,INPUT2=ACBLIB
DBD NAME1=DBDHDAM,NAME2=DBDHDM2
```

If you specify DBDLIB for the INPUT2 keyword, the resource names you specify for NAME1 and NAME2 keywords must be the same.

For both NAME1 and NAME2, you can use wildcard characters to create a pattern-matching expression that specifies more than one DBD.

**PSB statement**
Optional statement. Use this statement to select specific PSBs. Specify this statement with the following keywords and parameters:

- **NAME1=resource_name**
- **NAME2=resource_name**

Specify a PSB name.

NAME1 specifies the resource name for the library that the INPUT1 statement specifies. NAME2 specifies the resource name for the library that the INPUT2 statement specifies. If NAME2 is omitted, the value you specify for NAME1 is used for NAME2.

For example, the following control statements are for comparing PSB PSB001 in the IMS directory active data set with PSB PSB002 in the ACB library:

```
PROC FUNC=COMPARE,INPUT1=DIRECTORY_STAGING,INPUT2=ACBLIB
PSB NAME1=PSB001,NAME2=PSB002
```

If you specify PSBLIB for the INPUT2 keyword, the resource names you specify for NAME1 and NAME2 keywords must be the same.

For both NAME1 and NAME2, you can use wildcard characters to create a pattern-matching expression that specifies more than one PSB.

**OPTION statement**
Optional statement.
Use the following keywords to exclude certain DBDGEN or PSBGEN statements and parameters from the scope of comparison. The OPTION statement works the same as the NOCOMP control statement of the DBD/PSB/ACB Compare utility. For detailed information about statements that are not compared, see “Summary of NOCOMP keyword parameters for source-level compare” on page 213.

- AREA=
- COMPRTN=
- DBDNAME=
- IMSREL=
- KEYLEN=
- LANG=
- LIST=
- METADATA=
- PCBNAME=
- PROCOPT=
- PROCSEQ=
- PROCSEQD=
- PSB_ACCESS=
- PSB_PSELOPT=
- PSBNAME=
- RMNAME=
- VERSION=

**YES**  The DBDGEN or PSBGEN statements and parameters are compared. The default value is YES.

**NO**  The DBDGEN or PSBGEN statements and parameters are not compared.

**REPORT statement**
Optional statement.

**COMPARE_LISTING=**
Specifies whether to print the Compare Listing.

**YES**  Prints the Compare Listing even if the utility detects no difference. This is the default value.

**NO**  Does not print the Compare Listing even if the utility detects differences.

**YES_ONLY_DIFF**
Prints the Compare Listing only when the utility detects differences.

**END statement**
Optional statement. Use this statement to indicate the end of the control statements.

**Tips for using wildcard characters**

To specify multiple DBDs or PSBs, specify a wildcard in any position of a character string. The asterisk (*) and the percent sign (%) are supported as wildcard
characters. An asterisk represents 0 - 8 characters, and a percent sign represents a single character. If two or more asterisks are specified sequentially, only the first asterisk is recognized.

For example, you can specify the wildcard characters in the following ways:

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Coding example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compare all DBD-type ACBs in the IMS directory with those in the ACB libraries</td>
<td>DBD NAME1=*,NAME2=**</td>
</tr>
<tr>
<td>Compare DBD-type ACBs that have a name that begins with the letter H in the IMS directory with those in the ACB libraries</td>
<td>DBD NAME1=H*,NAME2=H*</td>
</tr>
<tr>
<td>Compare PSB-type ACBs that have a name that begins with the letters ABC, have any letters as the fourth character, and contain 001 as the fifth to seventh characters in the IMS directory with those in the ACB libraries</td>
<td>PSB NAME1=ABC%001,NAME2=ABC%001</td>
</tr>
</tbody>
</table>

Control statements for the convert function

Use the following information to prepare control statements for the convert function of the Catalog Manager utility.

Subsections:
- “Syntax rules”
- “Control statement example”
- “Statements, keywords, and parameters” on page 353
- “Tips for using wildcard characters” on page 354

Syntax rules

The control statements for the Catalog Manager utility must adhere to the following syntax rules:

- Control statements can be coded on any columns in the range of 2 - 80.
- A statement with an asterisk (*) in column 1 is treated as a comment.
- Each statement consists of a statement type, a keyword, and a parameter as follows:
  
  \[ \text{statement-type \ keyword=}\text{parameter} \]

Control statement example

The following figure shows an example of the FABXCIN control statements to convert a DBD member and a PSB member in the IMS directory.
PROC statement

Required statement. This statement must be coded on the first line.

To invoke the convert function, specify: FUNC=DECODE

The utility converts DBD and PSB control blocks in the IMS directory to IMS DBDGEN and IMS PSBGEN control statements.

Note: Abbreviations are shown in parentheses.

INPUT=

Specify either of the following values to indicate whether to use active ACBs or staging ACBs in the IMS directory.

DIRECTORY_ACTIVE (DIR_ACT)

Specifies to convert active ACBs in the IMS directory data sets.

DIRECTORY_STAGING (DIR_STG)

Specifies to convert staging ACBs in the staging data set.

DBD statement

Optional statement. Use this statement to select specific DBDs. Specify this statement with the following keyword and parameter:

NAME=resource_name

Specify a DBD name. You can use wildcard characters to create a pattern-matching expression that specifies more than one DBD.

PSB statement

Optional statement. Use this statement to select specific PSBs. Specify this statement with the following keywords and parameters:

NAME=resource_name

Specify a PSB name. You can use wildcard characters to create a pattern-matching expression that specifies more than one PSB.

PCBNAME_PREFIX=prfx

Specify, in 1-4 characters, the prefix to use when assigning names to PCBs.

If the utility finds one or more PCBs without PCB names, the utility assigns PCB names to them and uses those names for the PCBNAME parameters of the PCB statement. The naming format is prfxnnnn, where prfx is the 1-4 characters that the PCBNAME_PREFIX keyword specifies, and nnnn is the PCB number.

The following is an example of the control statement:

NAME=psbname,PCBNAME PREFIX=prfx
**OPTION statement**

Optional statement. The following options can be specified for converting DBDs and PSBs in the IMS directory.

**COMMENT=**

Specifies whether the utility prints the comment lines (the heading part of the DATASET, SEGM, or PCB statement) from the decoded DBD or PSB sources.

- **YES** The comment lines are printed. This is the default value.
- **NO** The comment lines are not printed.

**COMPRESS=**

Specifies whether the decoded DBD or PSB sources are printed in compressed format.

- **YES** The decoded sources are printed in compressed format. This is the default value.
- **NO** The decoded sources are printed in noncompressed format.

**PCB_LABEL=**

Specifies whether to print the PCB name in the PCB label or on the PCBNAME control statement.

- **YES** Prints the PCB name in the PCB label.
- **NO** Prints the PCB name on the PCBNAME control statement. This is the default value.

**PGM_COBOL=**

Specifies whether to print LABG=COBOL or LABG=ASSEM in the decoded IMS PSBGEN control statements.

- **YES** Prints LANG=COBOL in the IMS PSBGEN control statements.
- **NO** Prints LANG=ASSEM in the IMS PSBGEN control statements. This is the default value.

**SENSEG_PROCOPT=**

Specifies to print the SENSEG PROCOPT value even when the value is the same as the PCB PROCOPT value.

- **YES** Prints the value.
- **NO** Does not print the value if the SENSEG PROCOPT value is the same as the PCB PROCOPT value. This is the default value.

**END statement**

Optional statement. Use this statement to indicate the end of the control statements.

**Tips for using wildcard characters**

To specify multiple DBDs or PSBs, specify a wildcard in any position of a character string. The asterisk (*) and the percent sign (%) are supported as wildcard characters. An asterisk represents 0 - 8 characters, and a percent sign represents a single character. If two or more asterisks are specified sequentially, only the first asterisk is recognized.

For example, you can specify the wildcard characters in the following ways:
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Coding example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convert all DBD-type ACBs</td>
<td>DBD NAME**</td>
</tr>
<tr>
<td>Convert DBD-type ACBs that have a name that begins with the letter H</td>
<td>DBD NAME=H*</td>
</tr>
<tr>
<td>Convert PSB-type ACBs that have a name that begins with the letters ABC, have any letter as the fourth characters, and contain 001 as the fifth to seventh characters</td>
<td>PSB NAME=ABC%001</td>
</tr>
</tbody>
</table>
JCL examples for the Catalog Manager utility

The following topics provide JCL examples for running the Catalog Manager utility.

Example: Validating DBDs and PSBs

The following figure shows a JCL example for validating DBDs and PSBs.

```jcl
//CATMANJ JOB ....
//STEP EXEC PGM=FABXCATM
//STEPLIB DD DSN=HPS.SHPSLMD0,DISP=SHR
// DSN=IMS15.SDFSRESL,DISP=SHR
// IMS DD DSN=PROD.PSBLIB,DISP=SHR
// DSN=PROD.OBBLIB,DISP=SHR
//DFSRESLB DD DSN=IMS15.SDFSRESL,DISP=SHR
// IMS DD DSN=PROD.PSBLIB,DISP=SHR
// DSN=PROD.OBBLIB,DISP=SHR
//DFSVSAMP DD * 0512,9
1024,9
2048,9
4096,9
16384,9
32768,9
10BF=(2048,4,N,N)
10BF=(4096,4,N,N)
10BF=(8192,4,N,N)
10BF=(32000,4,N,N)
/*
//PROCLIB DD DSN=IMS15.PROCLIB
//RECON1 DD DSN=PROD.RECON1,DISP=SHR
//RECON2 DD DSN=PROD.RECON2,DISP=SHR
/*
//ACBLIB DD DSN=PROD.ACBLIB
//FABXPPRM DD *
DLI,FABXCATM,DFSCPL00,...........Y,N,............DFSDF=CAT
//FABXCIN DD *
PROC FUNC=CHECK_GENTIME
DBD NAME="
PSB NAME="
END
/*
```

Figure 137. Example of validating DBDs and PSBs

Example: Comparing IMS control blocks

The following figures show JCL examples for the compare function.

The following example is for comparing a DBD and multiple PSBs between the IMS directory and the ACB library.
The following example is for comparing a staging ACB in the IMS directory with a DBD in the DBD library.

Figure 138. Example of comparing active ACBs in the IMS directory with those in the ACB library

The following example is for comparing a staging ACB in the IMS directory with a DBD in the DBD library.
Example: Converting IMS control blocks to control statements

The following figure shows a JCL example for converting the runtime ACBs for databases and program views control blocks in the IMS directory to IMS DBDGEN and IMS PSBGEN control statements.

```
//CATMANJ JOB ....
//STEP EXEC PGM=FABXCATM
//STEPLIB DD DSN=HPS.SHPSLIBD0,DISP=SHR
// DD DSN=IMS15.SDFSRESL,DISP=SHR
//DFSRESL DD DSN=IMS15.SDFSRESL,DISP=SHR
//IMS DD DSN=PROD.PSBLIB,DISP=SHR
// DD DSN=PROD.DBDLIB,DISP=SHR
//DFSVSAMP DD *
0512,9
1024,9
2048,9
4096,9
16384,9
32768,9
IOBF=(2048,4,N,N)
IOBF=(4096,4,N,N)
IOBF=(8192,4,N,N)
IOBF=(32000,4,N,N)
/*
//PROCLIB DD DSN=IMS15.PROCLIB
//RECON1 DD DSN=PROD.RECON1,DISP=SHR
//RECON2 DD DSN=PROD.RECON2,DISP=SHR
//*
//DBDLIB DD DSN=PROD.DBDLIB
//FABXCRP0 DD SYSOUT**
//FABXCRP1 DD SYSOUT**
//FABXCRP2 DD SYSOUT**
//FABXPPRM DD *
DLI,FABXCATM,DFSCPL00,,,,,,,,,,,Y,N,,,,,,,,,,,,,DFSDF=CAT
//FABXCIN DD *
PROC FUNC=COMPARE,INPUT1=DIRECTORY_STAGING,INPUT2=DBDLIB
OPTION VERSION=NO,RMNAME=NO
REPORT COMPARE_LISTING=YES_ONLY_DIFF
DBD NAME1=DBDHDAM
END
/*
```

Figure 139. Example of comparing a staging ACB in the IMS directory with a DBD in the DBD library
Figure 140. Example of converting ACBs in the IMS directory
Output from the Catalog Manager utility

Output from the Catalog Manager utility consists of the FABXCRP0 data set, FABXCRP1 data set, FABXCRP2 data set, and FABXCSRC data set. The data sets used depend on the function.

Output from the validate function

Output from the Catalog Manager utility for validating DBDs or PSBs consists of the FABXCRP0 data set and the FABXCRP1 data set.

FABXCRP0 data set (Validate function)
The FABXCRP0 data set contains the Control Statement report, which shows the echo of the FABXCIN control statements and the selected runtime options.

FABXCRP1 data set (Validate function)
The FABXCRP1 data set contains the FABXPPRM Echo Back report, the IMS Catalog Environment report, and the IMS Catalog Validation report.

Subsections:
- “FABXPPRM Echo Back report”
- “IMS Catalog Environment report” on page 361
- “IMS Catalog Validation report” on page 361

FABXPPRM Echo Back report

This report contains an echo of the FABXPPRM parameters.
IMS Catalog Environment report

This report contains environment information about the IMS system and the IMS catalog.

IMS ENVIRONMENT

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS ID</td>
<td>SYS1</td>
</tr>
<tr>
<td>IMS VERSION</td>
<td>15.01.00</td>
</tr>
</tbody>
</table>

IMS CATALOG ENVIRONMENT

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFSDF MEMBER NAME</td>
<td>DFSDFRGN</td>
</tr>
<tr>
<td>DFS3CDX0 ROUTINE</td>
<td>NO</td>
</tr>
<tr>
<td>ACB MANAGEMENT</td>
<td>ACBLIB</td>
</tr>
<tr>
<td>ALIAS</td>
<td>DFSC</td>
</tr>
<tr>
<td>CATALOG HLQ</td>
<td>IMS.CATALOG</td>
</tr>
</tbody>
</table>

*Figure 143. Example of the IMS Catalog Environment report*

This report contains the following fields:

**IMS ID**
IMS ID.

**IMS VERSION**
IMS version.

**DFSDF MEMBER NAME**
DFSDF PROCLIB member name. This field is blank if the DFS3CDX0 exit routine was used.

**DFS3CDX0 ROUTINE**
Whether the DFS3CDX0 exit routine was used. YES indicates that the DFS3CDX0 was used. Blank indicates that the DFSDF member was used.

**ACB MANAGEMENT**
The location from which the ACBs were loaded. The following locations are used:

- **CATALOG**
  ACBs were loaded from the IMS catalog.

- **ACBLIB**
  ACBs were loaded from the ACB libraries.

**ALIAS**
The alias name of the IMS catalog.

**CATALOG HLQ**
The high-level qualifier (HLQ) of the IMS catalog.

IMS Catalog Validation report

This report contains validation results for DBDs and PSBs. If ACBs were loaded from ACB libraries, the report contains validation results for the DBDs and PSBs in the ACB libraries and the IMS catalog. If ACBs were loaded from the IMS catalog, the report contains validation results for the DBDs and PSBs in the ACB libraries, the IMS catalog, and the IMS directory.
The following figure shows an example of the report when IMS managed ACBs is enabled. This example contains results of validating DBDs and PSBs in ACB libraries, IMS catalog, and IMS directory.

<table>
<thead>
<tr>
<th></th>
<th>VALIDATION</th>
<th>ACBLIB TIMESTAMP</th>
<th>CATALOG TIMESTAMP</th>
<th>DIRECTORY TIMESTAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBD001A</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>DBD003A</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>DBD0010A</td>
<td>INVALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>DBD007A</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>HDAM009</td>
<td>FAILED</td>
<td>2018/04/05 05:03:10.71</td>
<td>2018/04/05 05:03:10.71</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>HDAM004</td>
<td>FAILED</td>
<td>2018/04/05 05:03:10.71</td>
<td>2018/04/05 05:03:10.71</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>HDAM0999</td>
<td>INVALID</td>
<td>2018/04/05 05:03:14.45</td>
<td>2018/04/05 05:02:38.73</td>
<td>(DBD NOT EXIST)</td>
</tr>
<tr>
<td>IDX003AA</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>IDX003AB</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>IDX003AC</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSB009</td>
<td>INVALID</td>
<td>2018/04/05 05:03:14.45</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB700</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB003</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB005</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB006</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB007</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB008</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB009</td>
<td>FAILED</td>
<td>2018/04/05 05:03:10.71</td>
<td>2018/04/05 05:03:10.71</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB010</td>
<td>VALID</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
<td>2018/04/05 05:02:38.73</td>
</tr>
<tr>
<td>PSB999</td>
<td>INVALID</td>
<td>2018/04/05 05:03:14.45 (PSB NOT EXIST)</td>
<td>2018/04/05 05:02:38.73</td>
<td>(PSB NOT EXIST)</td>
</tr>
</tbody>
</table>

Figure 144. Example of the IMS Catalog Validation report

This report contains the following fields:

**NAME**
The resource name. Either the name of the DBD or PSB.

**VALIDATION RESULT**
The result of the validation. The following indicators are used:

**VALID**
The time stamp and the database version number in the IMS catalog match the ACBGEN time stamp and the database version number of the member in the ACB library.

**INVALID**
One or more of the following conditions apply:

- The time stamp in the IMS catalog does not match the ACBGEN time stamp of the member in the ACB library.
- The database version number in the IMS catalog does not match the database version number in the ACB library.
- The DBD or PSB is not contained in the IMS catalog.

To populate the IMS catalog and make the time stamps match, run the ACB Generation and Catalog Populate utility (DFS3UACB) or the IMS Catalog Population utility (DFS3PU00).
FAILED

One or more of the following conditions met:

- The time stamp of the member in the IMS catalog database does not match the time stamp of that member in the IMS catalog directory.
- The Catalog Manager utility cannot validate the resource because the time stamp information was not found in the IMS catalog.

Run the ACB Generation and Catalog Populate utility (DFS3UACB) or the IMS Catalog Population utility (DFS3PU00) to fix the condition.

The FAILED indicator is also shown for a PSB that contains PCBs that refer to a GSAM database or a logical database. See "Catalog Manager utility restrictions" on page 338.

ACBLIB

For a DBD, the database version number and the ACBGEN time stamp of the DBD member in the ACB library. When either of the following conditions is met, a string of zeros is shown as the database version number:

- Database versioning is enabled and this DBD is the first version of the database.
- Database versioning is not enabled.

For a PSB, the ACBGEN time stamp of the PSB member in the ACB library.

CATALOG

For a DBD, the database version number and the time stamp obtained from the DBD in the IMS catalog. When either of the following conditions is met, a string of zeros is shown as the database version number:

- Database versioning is enabled and this DBD is the first version of the database.
- Database versioning is not enabled.

For a PSB, the time stamp obtained from the PSB in the IMS catalog.

When a DBD or PSB has multiple instances in the IMS catalog, the information is obtained from the most recent instance.

DIRECTORY

The time stamp obtained from the DBD-type ACB or PSB-type ACB in the IMS catalog directory.

Output from the compare function

Output from the Catalog Manager utility for comparing IMS control blocks consists of the FABXCRP0 data set, FABXCRP1 data set, and FABXCRP2 data set.

FABXCRP0 data set (Compare function)

The FABXCRP0 data set contains the Control Statement report, which shows the echo of the FABXCIN control statements and the selected runtime options.
FABXCRP1 data set (Compare function)

The FABXCRP1 data set contains the FABXPPRM Echo Back report, the IMS Catalog Environment report, the Compare Summary report, and, if errors or warning messages were issued, the Error and Warning Messages report.

Subsections:
- “FABXPPRM Echo Back report”
- “IMS Catalog Environment report” on page 365
- “Compare Summary report” on page 366
- “Error and Warning Messages report” on page 366

FABXPPRM Echo Back report

This report contains an echo of the FABXPPRM parameters.
IMS Catalog Environment report

This report contains environment information about the IMS system and the IMS catalog.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS ID</td>
<td>SYS1</td>
</tr>
<tr>
<td>IMS VERSION</td>
<td>15.01.00</td>
</tr>
<tr>
<td>DFSDF MEMBER NAME</td>
<td>DFSDFRGN</td>
</tr>
<tr>
<td>DFS3CDX0 ROUTINE</td>
<td>NO</td>
</tr>
<tr>
<td>ACB MANAGEMENT</td>
<td>ACBLIB</td>
</tr>
<tr>
<td>ALIAS</td>
<td>DFSC</td>
</tr>
<tr>
<td>CATALOG HLQ</td>
<td>IMS.CATALOG</td>
</tr>
</tbody>
</table>

This report contains the following fields:

**IMS ID**

IMS ID.

**IMS VERSION**

IMS version.

**DFSDF MEMBER NAME**

DFSDF PROCLIB member name. This field is blank if the DFS3CDX0 exit routine was used.

**DFS3CDX0 ROUTINE**

Whether the DFS3CDX0 exit routine was used. YES indicates that the DFS3CDX0 was used. Blank indicates that the DFSDF member was used.

**ACB MANAGEMENT**

The location from which the ACBs were loaded. The following locations are used:

- **CATALOG**
  
  ACBs were loaded from the IMS catalog.

- **ACBLIB**
  
  ACBs were loaded from the ACB libraries.

**ALIAS**

The alias name of the IMS catalog.

**CATALOG HLQ**

The high-level qualifier (HLQ) of the IMS catalog.
Compare Summary report

This report shows the comparison summary.

This report contains the following fields:

INPUT1
The library that is specified for the INPUT1 keyword of the PROC FUNC=COMPARE statement.

INPUT2
The library that is specified for the INPUT2 keyword of the PROC FUNC=COMPARE statement.

RESOURCE TYPE
The type of the resource compared. DBD or PSB.

RESOURCE NAME1
The name of the resource found in the library specified by the INPUT1 keyword.

RESOURCE NAME2
The name of the resource found in the library specified by the INPUT2 keyword.

RESULT
SAME  No difference is found.
DIFFERENCE  Difference is found.
FAIL     Member is not found in both or one of the specified libraries.

Error and Warning Messages report

This report contains error and warning messages. If error or warning messages were issued during the process, those messages are printed to the Error and Warning Messages report. If no error or warning messages were issued, this report
contains "No message".

The FABXCRP2 data set contains the Compare Listing. This report contains details about the differences detected.

**NUMBER OF DIFFERENT STATEMENTS**

**INSERTED**: 0

**DELETED**: 0

**CHANGED**: 4

**CATALOG HLQ**: ACBLIB
**STATUS**: ACTIVE
**RESOURCE**: DBD#X01A
**GENERATED**: 03/18/2018 21.27
**GENERATED IMS**: 1510

**CHK SOURCE LINES**

<table>
<thead>
<tr>
<th>C - DBD</th>
<th>0000001</th>
<th>DBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>* NAME=DBD#X01A,</td>
<td>0000002</td>
<td>NAME=DBD#X02A,</td>
</tr>
<tr>
<td>ACCESS=(PSINDEX,VSAM,PROT,DOSCOMP),</td>
<td>0000003</td>
<td>ACCESS=(PSINDEX,VSAM,PROT,DOSCOMP),</td>
</tr>
<tr>
<td>PASSWD=YES,</td>
<td>0000004</td>
<td>PASSWD=YES,</td>
</tr>
<tr>
<td>* VERSION='1XXXXXXX'</td>
<td>0000005</td>
<td>VERSION=03/05/17 23.33</td>
</tr>
<tr>
<td>C - SEGM</td>
<td>0000006</td>
<td>SEGM</td>
</tr>
<tr>
<td>* NAME=X01AS001,</td>
<td>0000007</td>
<td>NAME=X02AS001,</td>
</tr>
<tr>
<td>PARENT=0,</td>
<td>0000008</td>
<td>PARENT=0,</td>
</tr>
<tr>
<td>BYTES=64,</td>
<td>0000009</td>
<td>BYTES=64,</td>
</tr>
<tr>
<td>RULES=(LLL,LAST),</td>
<td>0000010</td>
<td>RULES=(LLL,LAST),</td>
</tr>
<tr>
<td>DSGROUP=A</td>
<td>0000011</td>
<td>DSGROUP=A</td>
</tr>
<tr>
<td>C - FIELD</td>
<td>0000012</td>
<td>FIELD</td>
</tr>
<tr>
<td>* NAME=(X01AFLA,SEQ,U),</td>
<td>0000013</td>
<td>NAME=(X02AFLA,SEQ,U),</td>
</tr>
<tr>
<td>START=1,</td>
<td>0000014</td>
<td>START=1,</td>
</tr>
<tr>
<td>* BYTES=10,</td>
<td>0000015</td>
<td>BYTES=10,</td>
</tr>
<tr>
<td>* TYPE=X</td>
<td>0000016</td>
<td>TYPE=X</td>
</tr>
<tr>
<td>C - LCHILD</td>
<td>0000017</td>
<td>LCHILD</td>
</tr>
<tr>
<td>* NAME=(DB1SEG2,DBD#D01A),</td>
<td>0000018</td>
<td>NAME=(DB1SEG3,DBD#D001A),</td>
</tr>
<tr>
<td>INDEX=IDP01D01,</td>
<td>0000019</td>
<td>INDEX=IDP02D01,</td>
</tr>
<tr>
<td>RKSIZE=10</td>
<td>0000020</td>
<td>RKSIZE=10</td>
</tr>
<tr>
<td>DBDGEN</td>
<td>0000021</td>
<td>DBDGEN</td>
</tr>
<tr>
<td>FINISH</td>
<td>0000022</td>
<td>FINISH</td>
</tr>
<tr>
<td>END</td>
<td>0000023</td>
<td>END</td>
</tr>
</tbody>
</table>

This report contains the following fields:

**NUMBER OF DIFFERENT STATEMENTS**

This part contains the summary information about statements which were inserted, deleted, or changed.

**INSERTED**

The number of statements which were found only in the DBD or the PSB in the library specified by the INPUT2 keyword.
DELETED
The number of statements which were found only in the DBD or the PSB in the library specified by the INPUT1 keyword.

CHANGED
The number of statements that exist in both DBDs or PSBs but are different.

CATALOG HLQ
The IMS Catalog HLQ (high level qualifier) of the library specified by the INPUT1 keyword.

STATUS
The status of the IMS directory. ACTIVE or STAGING.

ACBLIB
DBDLIB
PSBLIB
The library type. This value is determined from the INPUT2 keyword.

RESOURCE
The name of the member compared.

GENERATED
The date and time when the member in the IMS directory was generated.

ACBGEN
The date and time when the member in the ACB library, DBD library, or PSB library was generated.

GENERATED IMS
The IMS version and release when the member was generated.

CHK
The following characters are used to indicate the difference:

I  A statement is inserted into the DBD or the PSB in the library specified by the INPUT2 keyword.
D  A statement is deleted from the DBD or the PSB in the library specified by INPUT1 keyword.
C  A statement in the DBD or the PSB in the library specified by the INPUT1 keyword is different from that in the library specified by the INPUT2= keyword. An asterisk (*) is shown on the row of each data that is determined to be different.

SOURCE LINES
The IMS DBDGEN or PSBGEN control statements that were decoded from the DBD or the PSB. The left column shows control statements decoded from the resource found in the library that the INPUT1 keyword specifies, the right column shows control statements decoded from the resource found in the library that the INPUT2 keyword specifies.

Output from the convert function
Output from the Catalog Manager utility for converting DBDs or PSBs consists of the FABXCRP0 data set, FABXCRP1 data set, and FABXCSRC data set. If you specify the DBDSRC or the PSBSRC data set, the utility generates members containing IMS DBDGEN or PSBGEN control statements in those data sets.

FABXCRP0 data set (Convert function)
The FABXCRP0 data set contains the Control Statement report, which shows the echo of the FABXCIN control statements and the selected runtime options.
FABXCRP1 data set (Convert function)

The FABXCRP1 data set contains the FABXPPRM Echo Back report, the IMS Catalog Environment report, and, if errors or warning messages were issued, the Error and Warning Messages report.

Subsections:
- “FABXPPRM Echo Back report”
- “IMS Catalog Environment report”
- “Error and Warning Messages report” on page 370

FABXPPRM Echo Back report

This report contains an echo of the FABXPPRM parameters.

IMS Catalog Environment report

This report contains environment information about the IMS system and the IMS catalog.
This report contains the following fields:

**IMS ID**
IMS ID.

**IMS VERSION**
IMS version.

**DFSDF MEMBER NAME**
DFSDF PROCLIB member name. This field is blank if the DFS3CDX0 exit routine was used.

**DFS3CDX0 ROUTINE**
Whether the DFS3CDX0 exit routine was used. YES indicates that the DFS3CDX0 was used. Blank indicates that the DFSDF member was used.

**ACB MANAGEMENT**
The location from which the ACBs were loaded. The following locations are used:

**CATALOG**
ACBs were loaded from the IMS catalog.

**ACBLIB**
ACBs were loaded from the ACB libraries.

**ALIAS**
The alias name of the IMS catalog.

**CATALOG HLQ**
The high-level qualifier (HLQ) of the IMS catalog.

### Error and Warning Messages report

This report contains error and warning messages. If error or warning messages were issued during the process, those messages are printed to the Error and Warning Messages report. If no error or warning messages were issued, this report contains "No message".
FABXCSRC data set (Convert function)

The FABXCSRC data set contains decoded IMS DBDGEN or IMS PSBGEN control statements.

For restrictions that apply to generated control statements, see "Catalog Manager utility restrictions" on page 338.

DBDSRC and PSBSRC data sets (Convert function)

The Catalog Manager utility creates IMS DBDGEN or PSBGEN control statements in the PDS or PDSE specified for the DBDSRC DD statement or the PSBSRC DD statement. These IMS DBDGEN or PSBGEN control statements are identical to those created in the FABXCSRC data set.
If the specified data set is not a PDS or PDSE, the program ends abnormally with an open error.

**Note:** If the member specified already exists in the PDS or PDSE, the program overrides the member.