

# IMS Managed ACB Mandate After 6 Months

## Adapting to the New Normal



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BMC Software



# Some History

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Database Definition – Database Organization, Access Methods, segments, SSA fields

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All database record fields in COBOL copybooks or PL/I, C include members

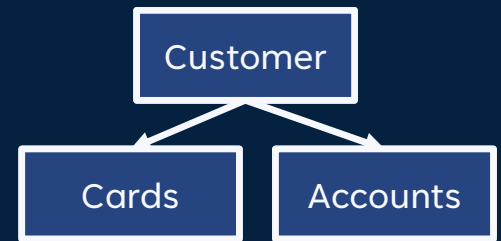
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Java access to IMS data from JBP or JMP regions

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DLIMODEL to create java class file

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# IMS Catalog

Optional system database from IMS 12 onwards

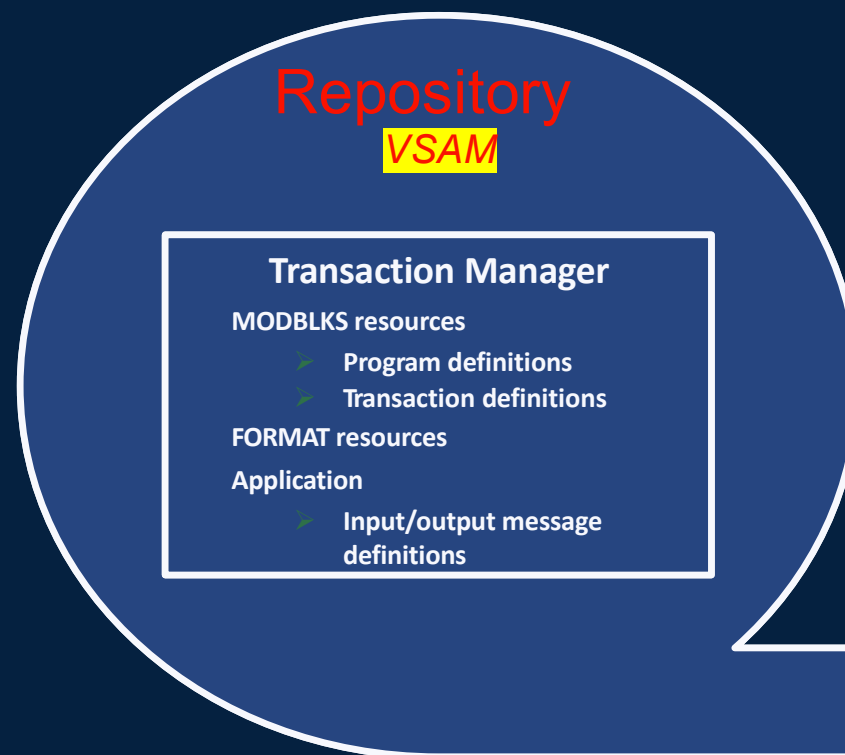
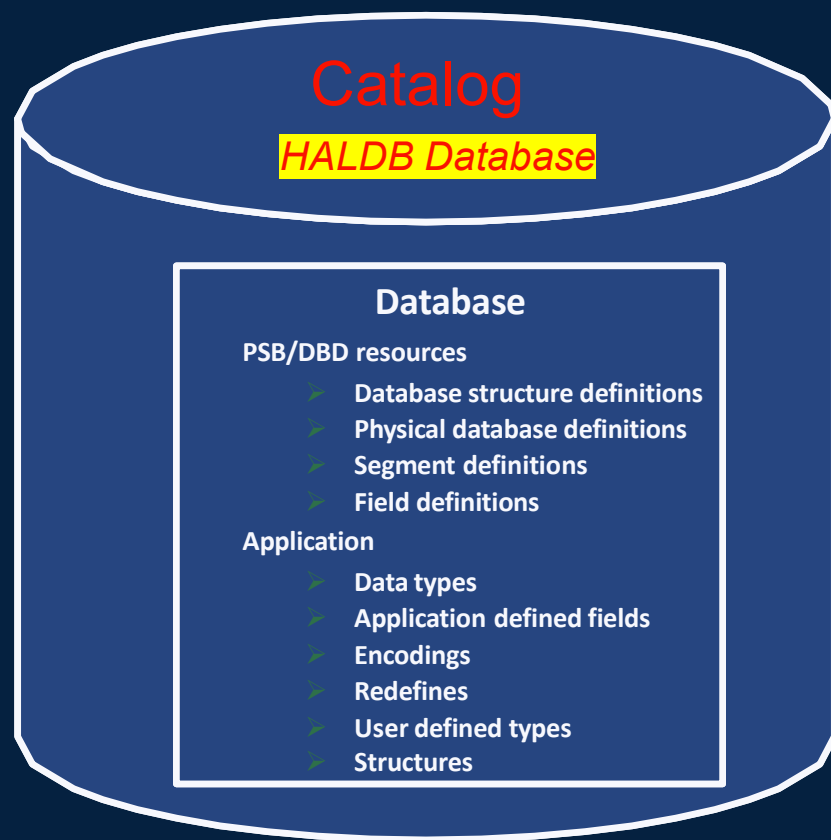
An IMS High Availability Large Database (HALDB) – PHIDAM/OSAM

A trusted, online source for IMS Database and Application metadata information

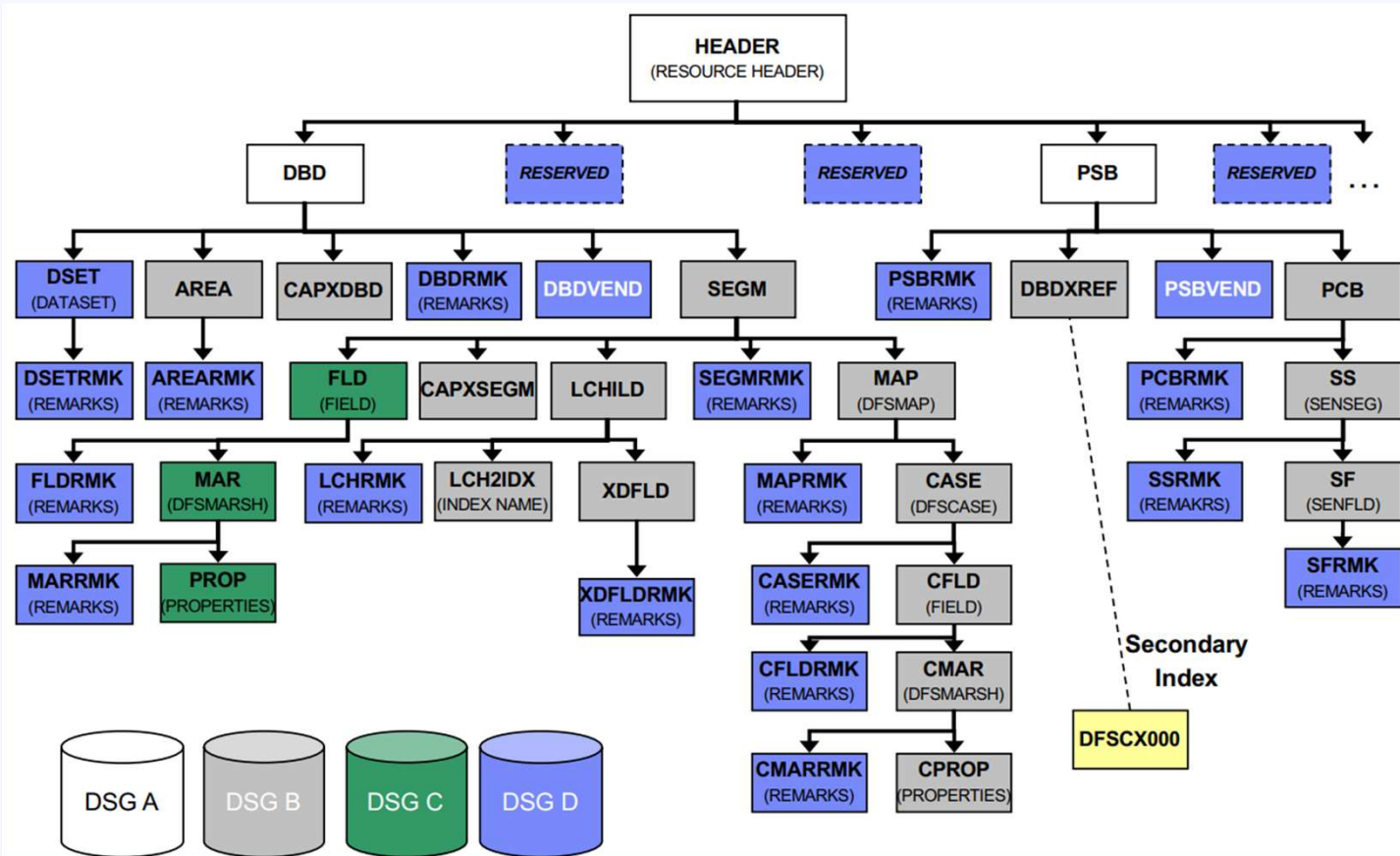
Accessible via both standard JDBC/SQL, (and COBOL/SQL in IMS 13) and traditional DL/1 access – GUR call

Multiple versions of metadata can be stored

# Technical metadata



# IMS Catalog DB



# What is the IMS managed ACB (Directory)

IMS14 and above users may optionally (until 15.5) enable IMS management of ACB control blocks for database and program views

IMS can build, activate & load ACBs into memory dynamically from the Catalog when database and program view definitions are created via DDL statements

ACBs are stored in the IMS directory which is an extension of the Catalog.

IMS management of ACBs implemented by specifying:  
ACBMGMT=CATALOG in the section of the DFSDFxxx proclib member

# Timeline

<b>Year</b>	<b>Milestone</b>	<b>Description</b>
2011	IMS Catalog Introduced (IMS Version 12)	IMS Catalog was introduced in October 2011 as an optional HALDB metadata repository.
2015	IMS Managed ACBs Introduced (IMS Version 14)	October 2015 GA release introduced IMS Managed ACB infrastructure to support catalog-driven metadata and IMS DDL.
2019	Statement of Direction (SOD) Announced	IBM announced that IMS Managed ACBs would be mandatory in future IMS releases, signaling the end of manual ACBLIB management.
2023	Summer 2023 Announcement	IBM reaffirmed the transition timeline and started ramping up tools and support for adoption.
2024	IMS 15.5 Release (June 2024)	Enhanced IMS Catalog and mACB support, preparing for mandatory transition.
2025	Mandatory IMS mACB Adoption (Summer 2025)	IBM requires all IMS DB clients to implement IMS Managed ACBs by mid-2025; migration to IMS 15.next requires mACB.

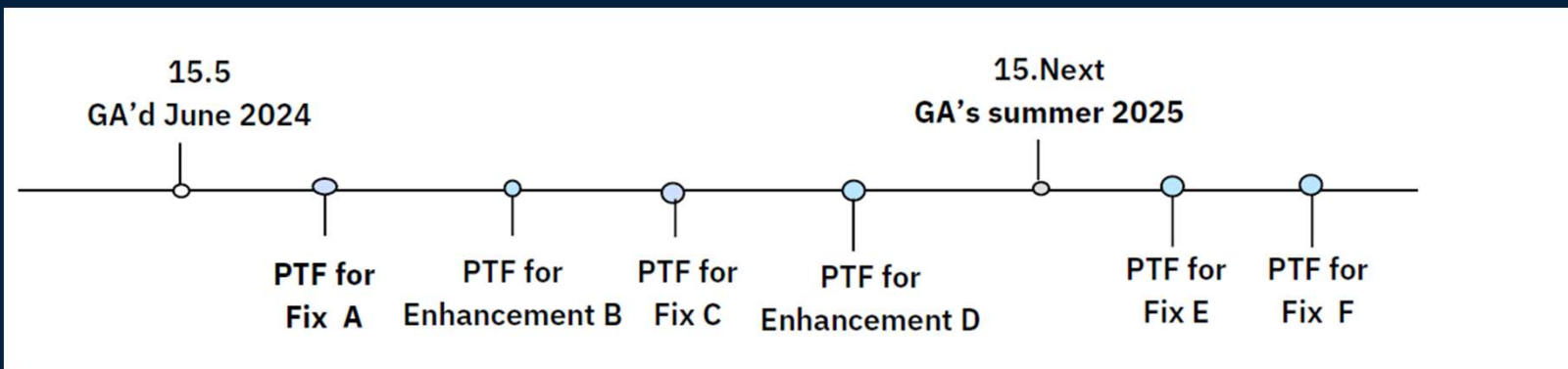
# IMS IMS latest Releases

IMS 15.3 GA'd on 24 June 2022

IMS 15.4 GA'd on 16 June 2023

IMS 15.5 GA'd on 14 June 2024 - IMS Managed ACB was optional

**IMS 15.6 GA'd on 13 June 2025 – IMS Managed ACB is mandatory**



# IMS 15.6 Marker PTFs – FH64705A and FH64706A

- Introduced as part of IMS 15.6 migration path.
- Key change: stricter validation of IMS managed ACBs configuration.
- Improper setup can cause initialization failures (U0071 ABEND).

▶ IMS 15.5 → Marker PTFs (FH64705A / FH64706A)  
→ IMS 15.6 Environment

Note: Ensure valid CATALOG setup before migration.

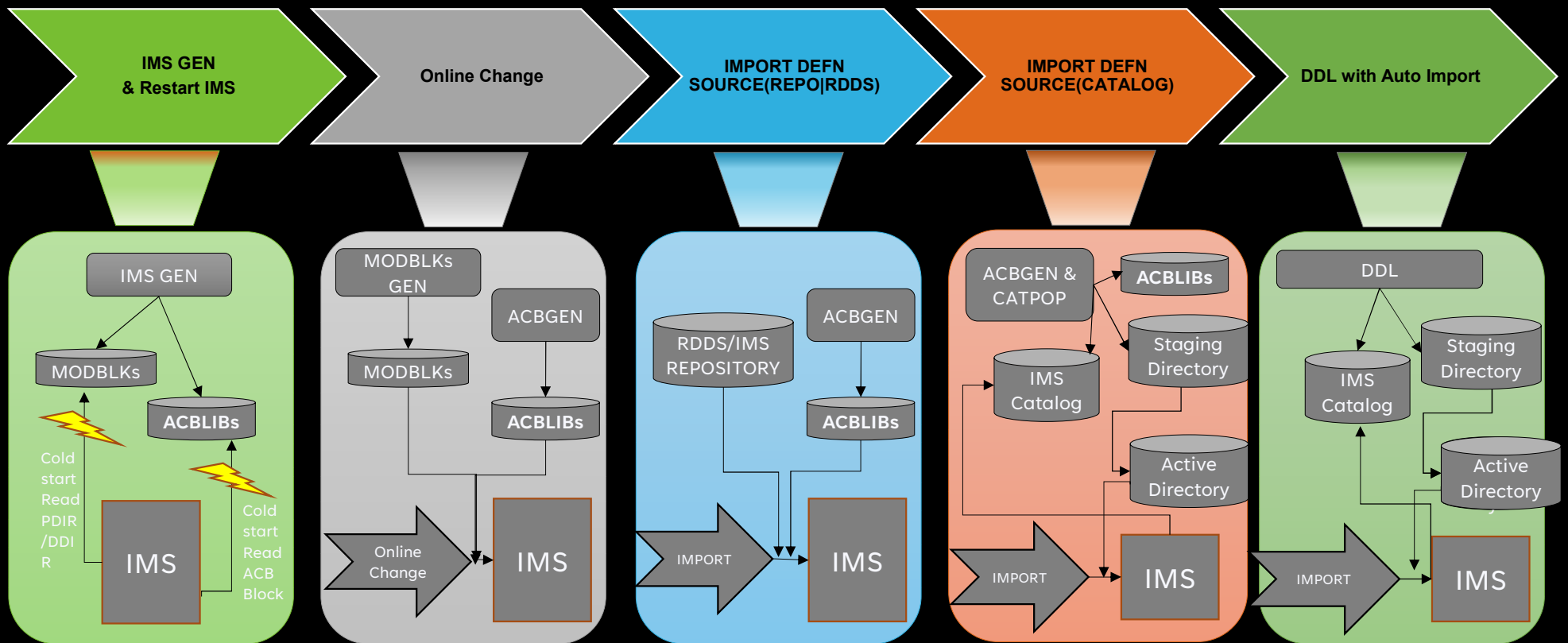
# IMS 15.6 Marker PTFs – APAR and FMID Mapping

APAR	PTF	FMID	Description
PH64705	U002686	HMK1500 (Base)	Changes the IMS installed level to 15.6 and requires the IMS 15.4 HMK1500 marker PTF and all HMK1500 maintenance PTFs since IMS 15.4.
	U002687	JMK1501 (Database Manager)	Requires the IMS 15.4 JMK1501 marker PTF and all JMK1501 maintenance PTFs since IMS 15.4.
	U002688	JMK1502 (Transaction Manager)	Requires the IMS 15.4 JMK1502 marker PTF and all JMK1502 maintenance PTFs since IMS 15.4.
	U002689	JMK1503 (ETO)	Requires the IMS 15.4 JMK1503 marker PTF and all JMK1503 maintenance PTFs since IMS 15.4.
	U002690	JMK151Z (VUE)	Requires the IMS 15.4 JMK151Z marker PTF and all JMK151Z maintenance 15.4 and later marker PTFs.
PH64706	U002693	JMK1506 (Java on Demand)	Requires the IMS 15.4 JMK1506 marker PTF and all JMK1506 maintenance 15.4 and later marker PTFs.

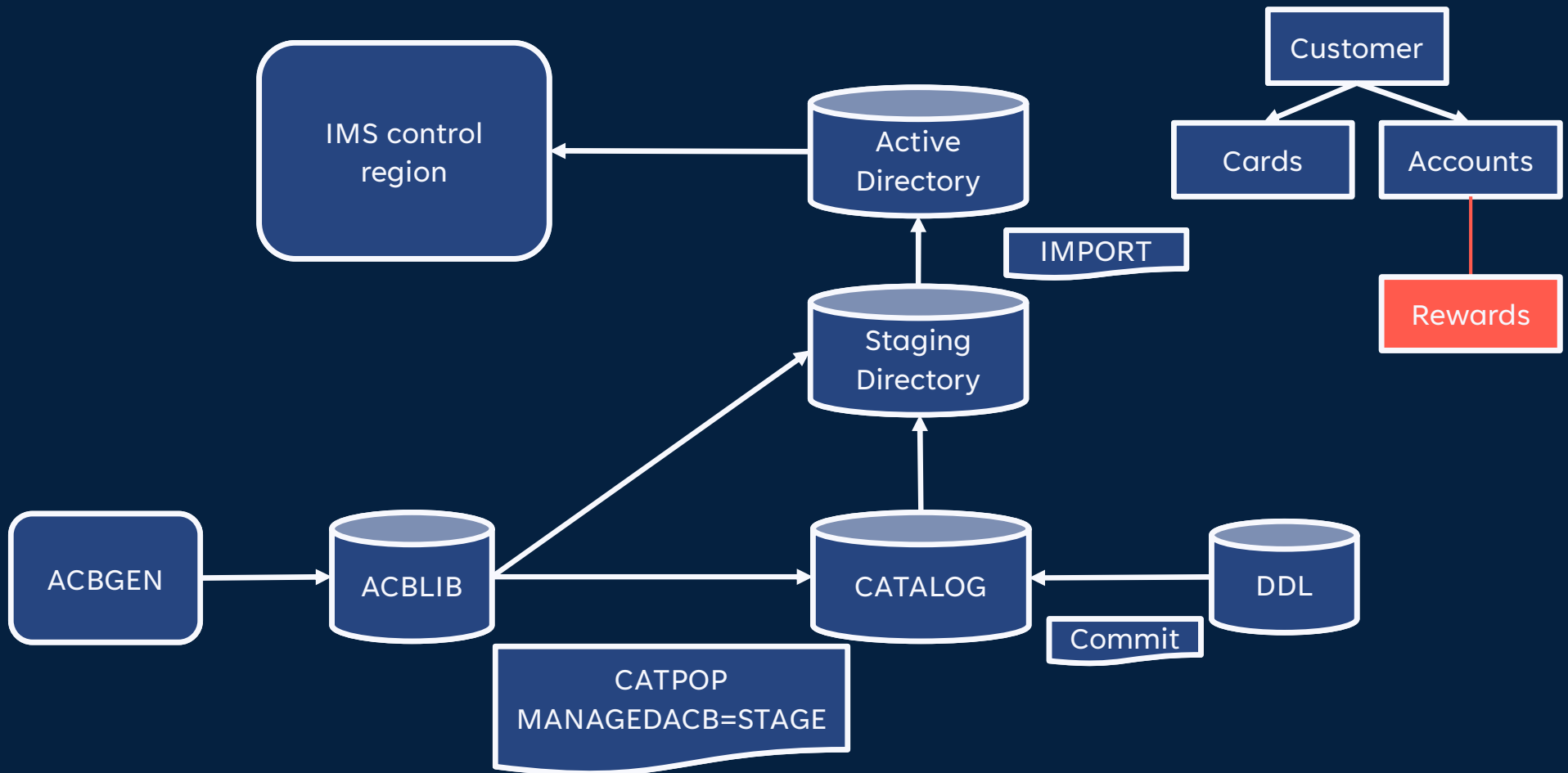
# IMS Managed ACBs – Common Setup Errors and Messages

Configuration Issue	Result	IMS Message
No CATALOG section in DFSDF member	U0071 ABEND	DFS3505E SECTION=CATALOG IS REQUIRED
CATALOG section present but CATALOG=N	U0071 ABEND	"DFS3505E ACBMGMT=CATALOG IS REQUIRED WHEN CATALOG=Y" (to be updated before GA)
CATALOG=Y but ACBMGMT not specified or ACBLIB	U0071 ABEND	"DFS3505E ACBMGMT=CATALOG IS REQUIRED WHEN CATALOG=Y"
CATALOG=Y and ACBMGMT=CATALOG but no catalog directory set up	IMS fails at restart	DFS4331E ERROR ALLOCATING IMS DIRECTORY BOOTSTRAP DATA SET

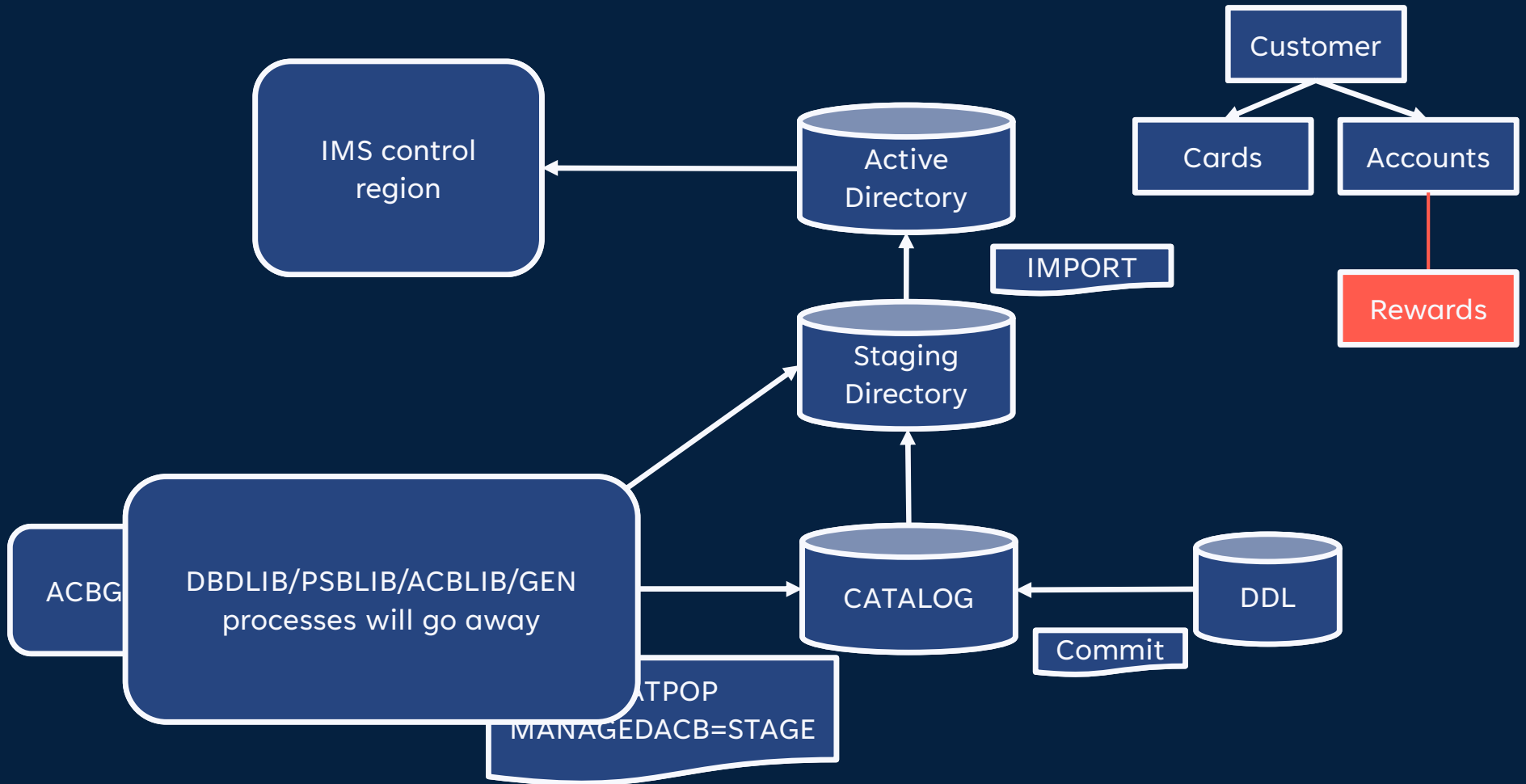
# History of Database & Application Change Evaluation



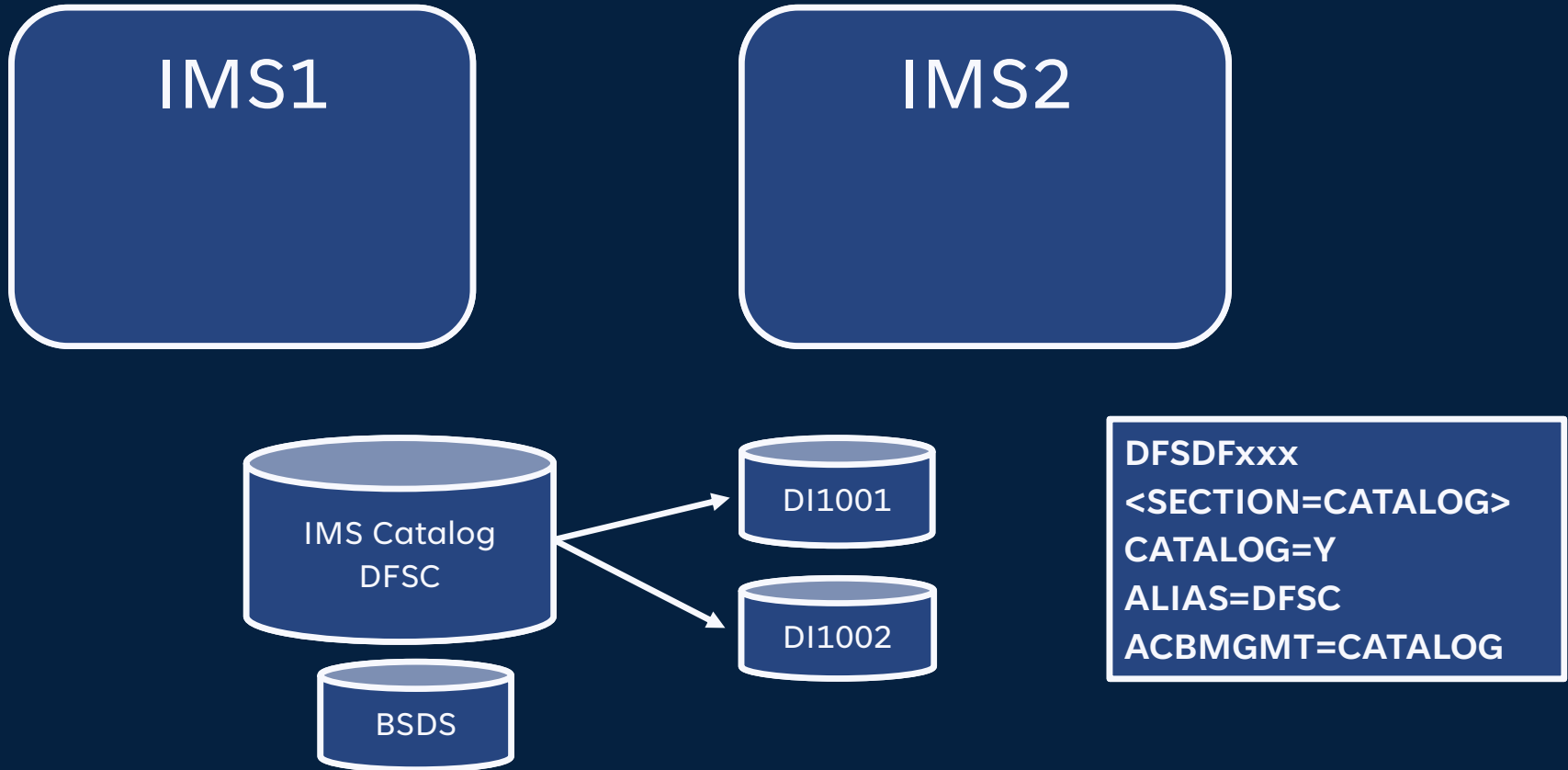
# Until Transition to DDL



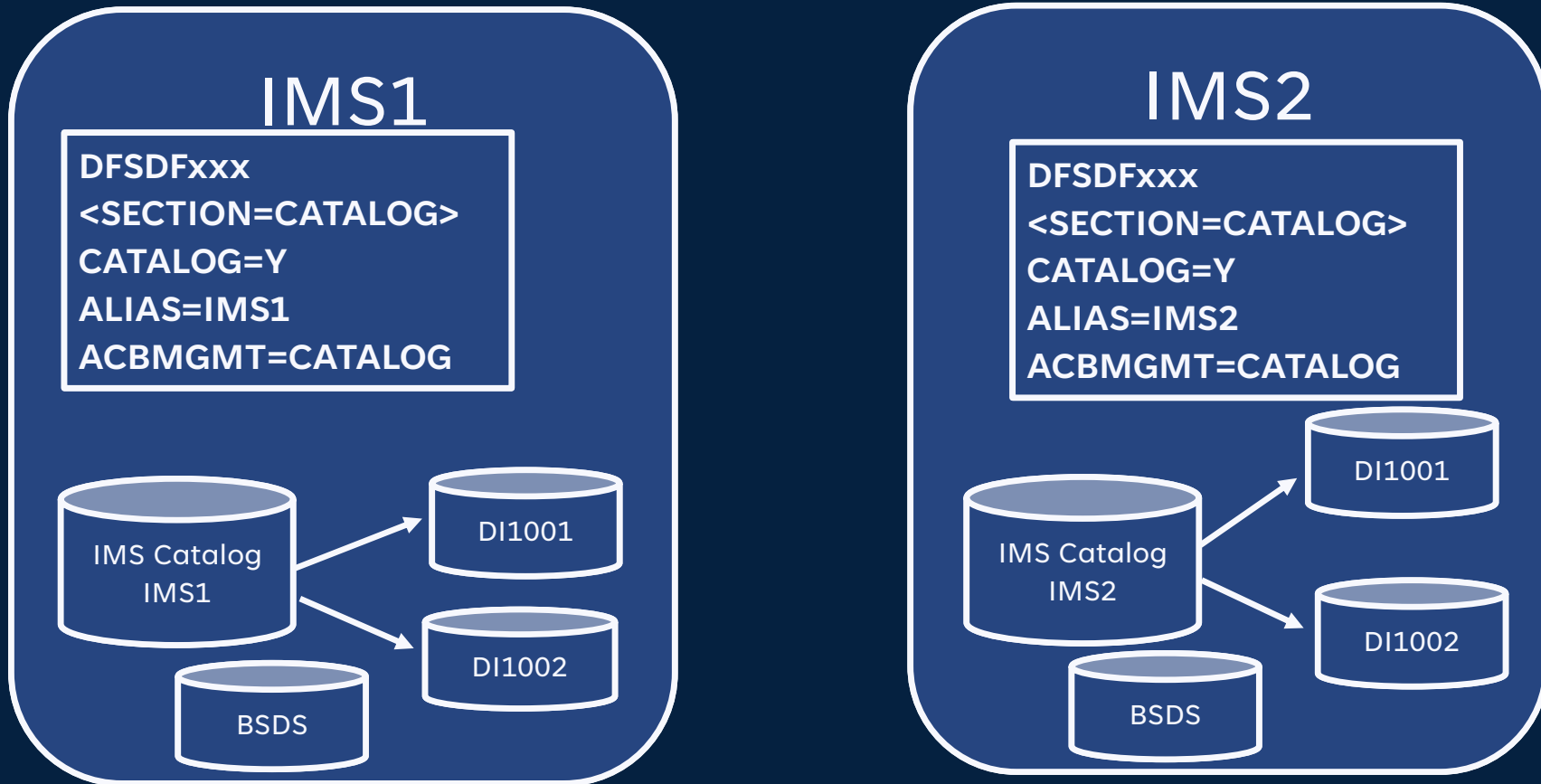
# Post Transition to DDL



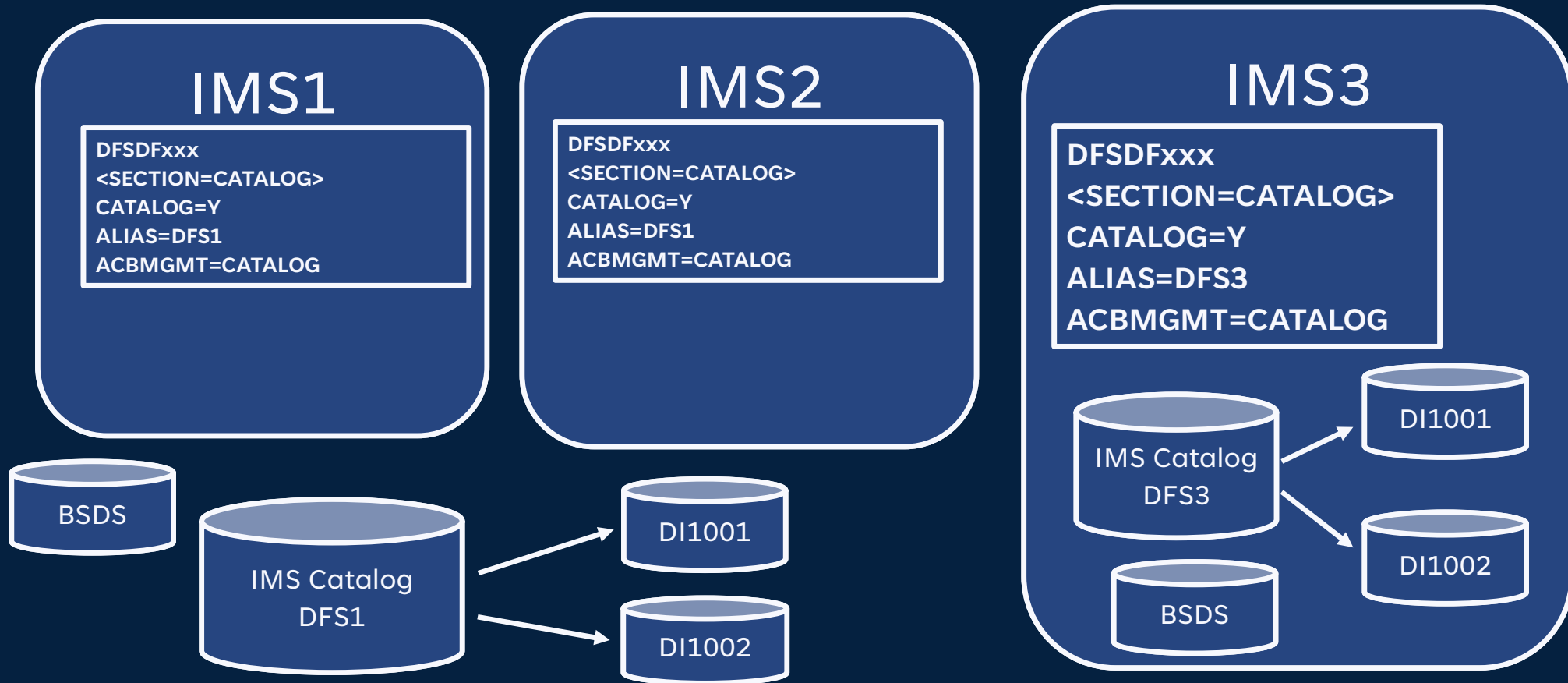
## Shared IMS Catalog and IMS managed ACBs



## Non-Shared IMS Catalog and IMS managed ACBs



## (Shared/Non-shared) IMS Catalog and IMS managed ACBs



# Administration Tasks

Populate (DFS3UACB and DFS3PU00)

Backup

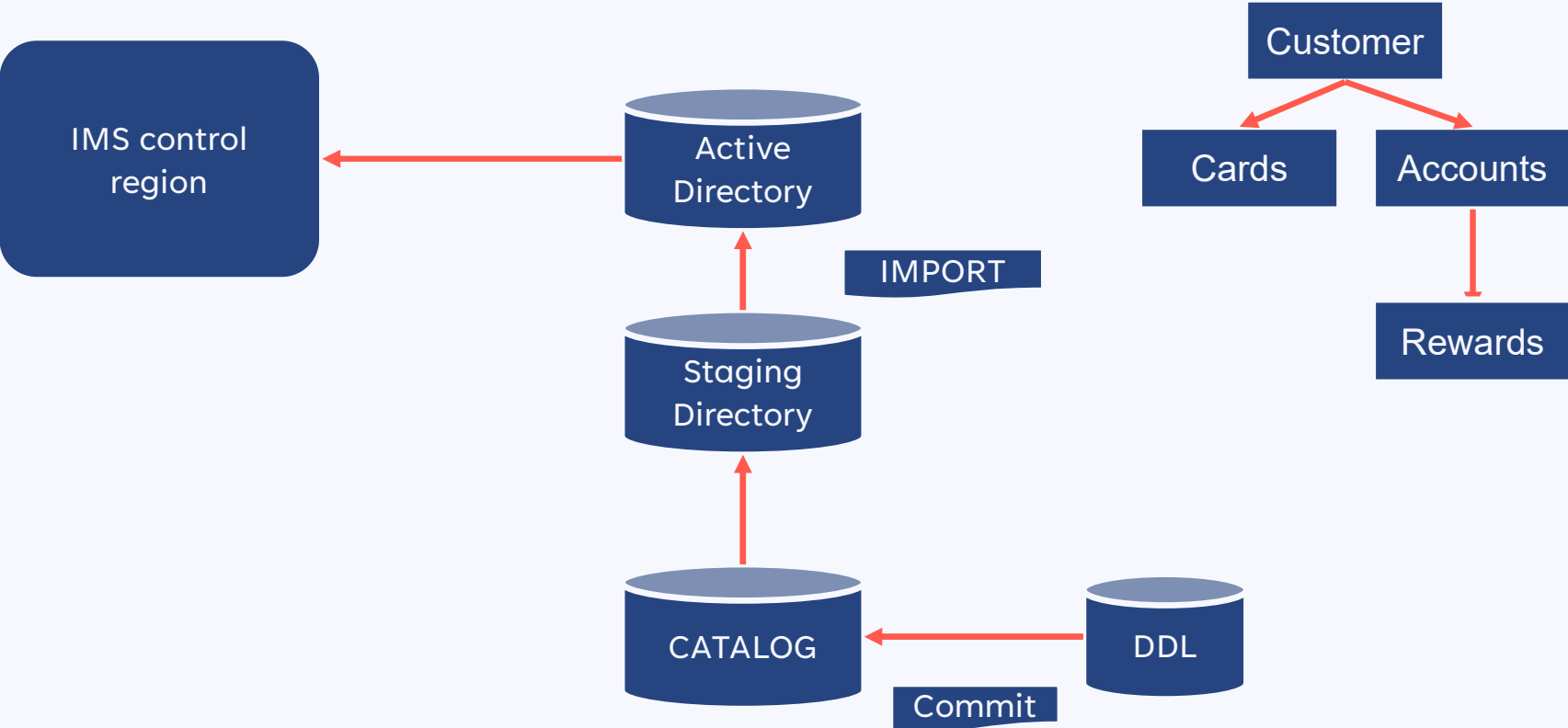
Reorganize

Maintenance

Recovery

Purging Records

# DDL



# Before and After - DBD

```
DBD  NAME=B1FVDP,           X
      ACCESS=(HDAM,VSAM),   X
      RMNAME=(DFSHDC40,8,64, X
      VERSION='09/25/2410.03'
*
DSG1  DATASET DD1=B1DDN,DEVICE=3390, X
      ,SIZE=4096
*
      SEGM  NAME=SEG0,      X
            BYTES=256,      X
            PARENT=0
      FIELD BYTES=8,       X
            START=1,       X
            TYPE=X,        X
            NAME=(KEY0,SEQ,U)
```

```
CREATE DATABASE B1FVDP ACCESS HDAM VSAM
VERSION '09/25/2410.03'
      RMNAME(DFSHDC40 RMANCH 8 RMRBN 64);

CREATE TABLESPACE B1DDN IN B1FVDP SIZE
PRIMARY 4096;

CREATE TABLE SEG0 (
      KEY0 CHAR(8) START 1 TYPE X INTERNALNAME
      KEY0 PRIMARY KEY
)
MAXBYTES 256 TWIN INTERNALNAME SEG0 IN
B1FVDP.B1DDN;
```

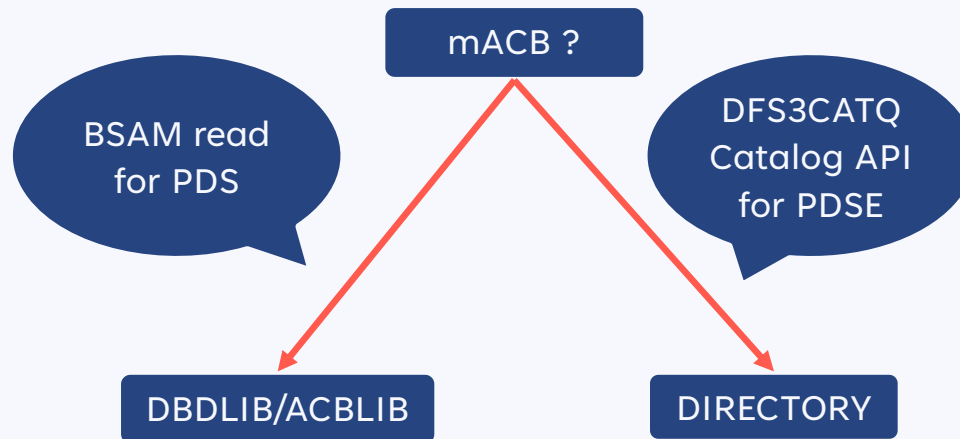
# Before and After - PSB

```
PCB TYPE=DB,DBDNAME=GLT01D,KEYLEN=51,PROCOPT=A,      X
      PCBNAME=A1
      SENSEG NAME=PROOT,PARENT=0
      SENSEG NAME=PLVL2,PARENT=PROOT
      SENSEG NAME=PLVL3,PARENT=PLVL2
*
PCB TYPE=DB,DBDNAME=GLT01D,KEYLEN=51,PROCOPT=A,
X
      PCBNAME=B1
      SENSEG NAME=PROOT,PARENT=0
      SENSEG NAME=PLVL2,PARENT=PROOT
      SENSEG NAME=PLVL3,PARENT=PLVL2
*
PSBGEN
PSBNAME=GLT01P,LANG=COBOL,CMPAT=YES,SSASIZE=840,    X
      IOASIZE=600
END
```

```
CREATE PROGRAMVIEW GLT01P (
      CREATE SCHEMA DB A1 USING GLT01D AS PCB_A1_A
      (CREATE SENSEGVIEW PROOT WITH PROCOPT
      'A',CREATE SENSEGVIEW
      PLVL2 WITH PROCOPT 'A',CREATE SENSEGVIEW PLVL3
      WITH PROCOPT 'A' )
      PROCOPT 'A',

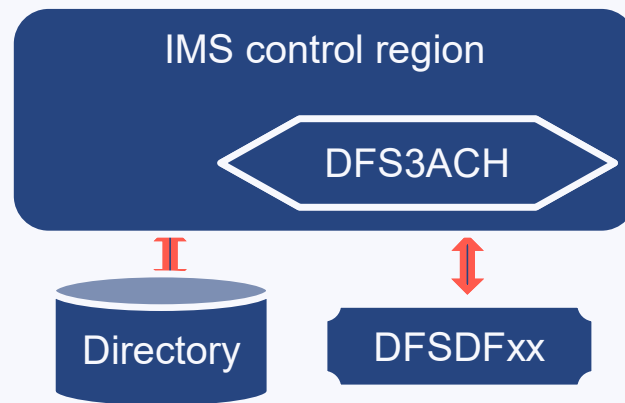
      CREATE SCHEMA DB B1 USING GLT01D AS PCB_B1_A
      (CREATE SENSEGVIEW PROOT WITH PROCOPT
      'A',CREATE SENSEGVIEW
      PLVL2 WITH PROCOPT 'A',CREATE SENSEGVIEW PLVL3
      WITH PROCOPT 'A' )
      PROCOPT 'A')
      IOASIZE 600 SSASIZE 840 CMPATYES LANGASSEM ;
```

# mACB philosophy



# Managed ACB support in Vendor Utilities

- When used in online mode, utilities for IMS Databases will determine the managed ACB environment from DFS3ACH (i.e., the CATALOG ANCHOR BLOCK)
- DFS3ACH contains definitions and catalog data set attributes specified in the DFSDFxxx Proclib member



## Look at the source at IMSVS.R15M.SDFSMAC(DFS3ACH)

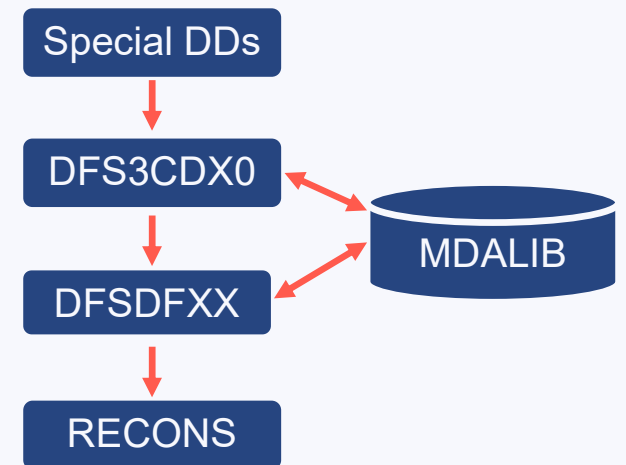
```
VIEW          IMSVS.R15M.SDFSMAC(DFS3ACH) - 01.00
Command ==>
000195 *****
000196 *   Anchor fields DFS3ACH
000197 *****
000198          DS      F              Not used
000199 CATA_CNAME   DS    CL8          Caller name (IMS | Batc
000200 CATA_DFNAME   DS    CL8          DFSDFXXX name
000201 CATA_FLAGS   DS    0F          DFS3ACH flags
000202 CATA_FLG1    DS     X          DFS3ACH flag byte 1 (do
000203 CATA_ENABLED EQU  X'80'        CATALOG=Y|N
000204 CATA_SECIMS EQU  X'40'        SECTION=CATALOGxxxx
000205 CATA_SECDFT EQU  X'20'        SECTION=CATALOG
000206 CATA_UX      EQU  X'10'        USER EXIT LINKED
000207 CATA_DIR     EQU  X'08'        DIRECTORY=N|Y|NO|YES
000266 *****
000267 *   Catalog directory data set fields
000268 *****
000269 CATA_dstagdsn DS    CL44         staging directory dsname
000270 CATA_bsdsname DS    CL44         boot strap dsname
000271 CATA_MACBHLQ DS    CL37         Managed ACB dsn hlq
000272          DS    CL1             Not used
000273 CATA_MACBHLN DS     H           Managed ACB dsn hlq length
```

# How is mACB used with offline utilities?

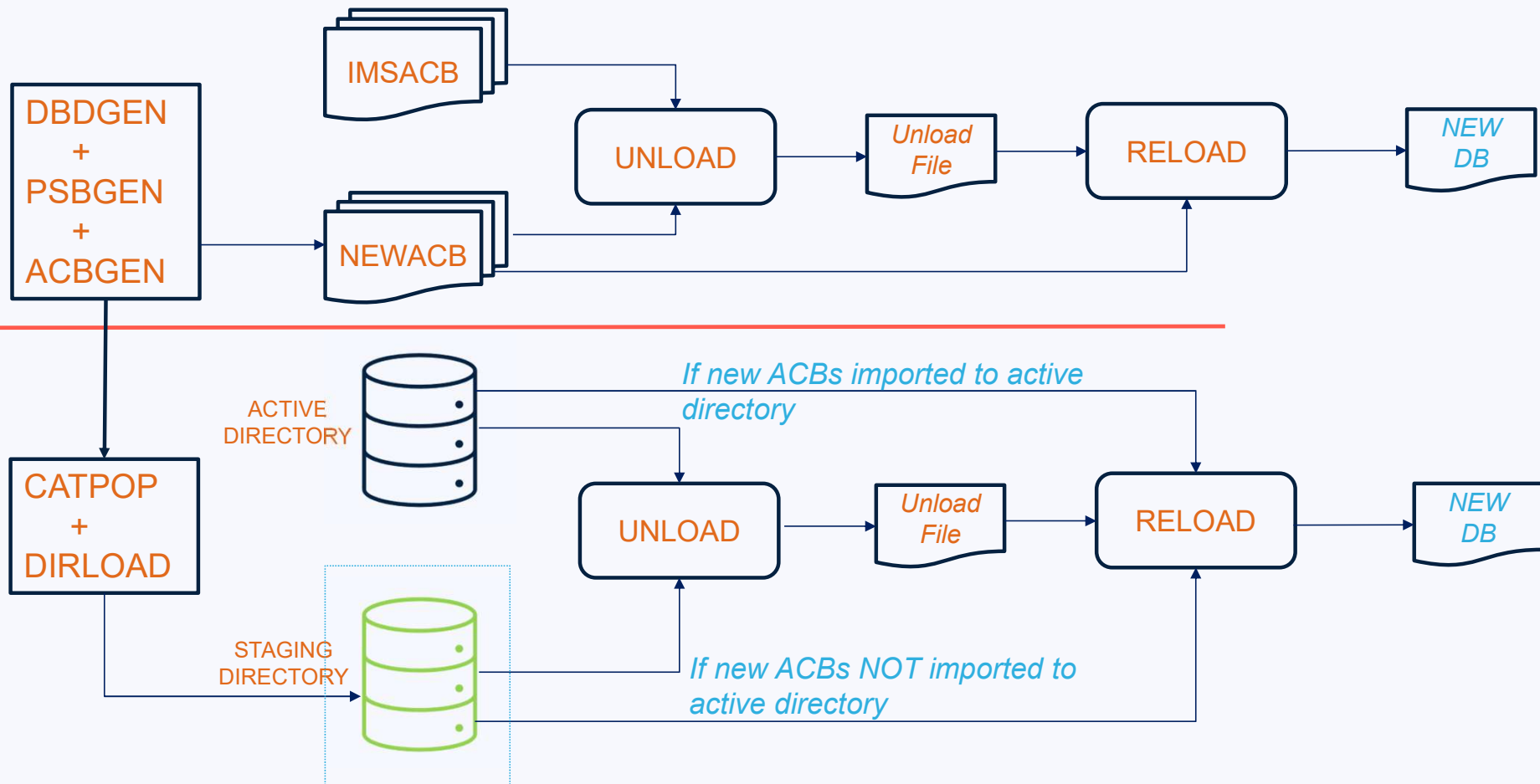
When used in offline mode, however, different methods are used to determine the managed ACB environment (as explained below):

The High-Level Qualifier (SYSDSNHLQ) of the IMS Catalog BSDS (Boot Strap Data Set) and IMS catalog directories may be specified using:

- 1) A control card
- 2) An IMS catalog definition exit – DFS3CDX0
- 3) Read DFSDFXxx proclib member
- 4) Entries in the RECONS



# Making database change offline using Unload/Reload



## Challenges

### Coexistence in SYSPLEX

All IMS instances in a SYSPLEX need simultaneous migration

Complexity in coordination and scheduling

# Challenges

- Legacy Automation Scripts

- Older scripts for library generations obsolete
- Need to rewrite automation workflows for catalog approach

# Challenges

- Catalog Corruption Risk

- Early adopters experienced dataset corruption from job failures
- Backup/restore processes needed refinement

# Challenges

## • Skill Gap

- Significant retraining of DBAs and programmers required
- New SQL/DDDL knowledge essential

# Challenges

- Comprehensive Training and Documentation
- In-depth workshops and hands-on labs for DBAs
- Updated documentation on catalog management best practices
- Continuous learning and refresher sessions to address evolving needs

# Challenges

## Audit/Backup Integration

- Regulatory processes needed updates to incorporate catalog methods
- Assurance of consistent backups remained paramount
- Vendor utilities support

# Solutions

## • Community & User Group Collaboration

- Sharing lessons learned through user forums and webinars
- Collaborating on troubleshooting and best practices
- Accelerating adoption through peer support networks

# Solutions

## Automating Migration Playbooks

- Use of industry-standard automation tools like Ansible
- Scripts for catalog creation and ACB migration included in playbooks
- Significantly reduces manual intervention and errors

# Solutions

## • Staged Migration Strategy

- Phased approach: testing in pilot environments first
- Ensuring minimal impact on production systems
- Allows fallback plans and rollback procedures during deployment

# Solutions

- Enhanced Catalog Backup and Restore

- Development of catalog-aware backup tools
- Faster restore times, minimizing downtime
- Reduced risk of catalog mismatch or corruption during recovery

# Solutions

- Adopting PDSE for Reliability and Storage Efficiency

- Moving from PDS to PDSE datasets to reduce corruption risks
- Improved space management and performance
- Easier catalog management integration

## Key Takeaways

- Migrating to **Managed ACBs** is a mandatory requirement.
- Proper **planning** and **preparation** are essential for success.
- Leverage available **tools** and **utilities** to streamline the process.
- Learn from the experiences of other **IMS users**.



# Webinar Series from **IBM**

## IMS managed ACBs Webinar Series

- <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/amanda-stephens/2024/10/16/ims-managed-acbs-webinar-series?communityKey=eba3ada3-db89-4dca-9154-328195f5e560>

## IMS Catalog Webinar Series

- [IMS catalog webinar series - IBM Z and LinuxONE Community](#)

## FAQs on IMS Catalog and Managed ACBs

- [FAQs on IMS Catalog and Managed ACBs - IBM Z and LinuxONE Community](#)

# BMC - Six-Part Webinar Series

IMS Managed ACBs Webinar Series – Seamless Transition with BMC AMI Data for IMS

## Webinar Series Overview

Part 1: Overview of BMC AMI Data for IMS

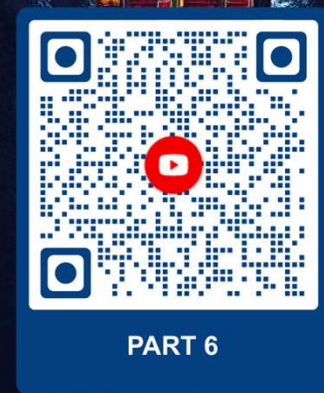
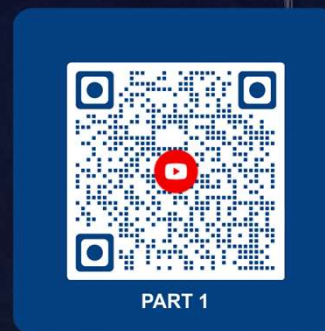
Part 2: Leverage Full Function and Backup/Recovery Solutions

Part 3: Optimize Fast Path Databases

Part 4: Enhance Transaction Processing and Development

Part 5: Administration Tools for IMS Catalog and Managed ACBs

Part 6: Automation with Ansible and Expert Q&A

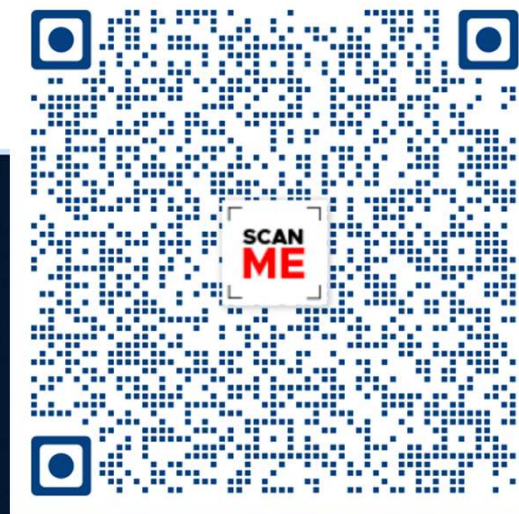


## IMS Managed ACBs White Paper from **BMC**

[BMC AMI Data for IMS - Get ready for IMS managed ACBs white paper](#)

## A **BMC** Community Blog Post on the same topic

<https://community.bmc.com/s/news/aA3cx0000003EpdCAE/bmc-ami-data-for-ims-get-ready-for-ims-managed-acbs-white-paper>



WHITE PAPER

# BMC AMI Data for IMS Get ready for IMS managed ACBs

## Slide 41

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**MN1** May want to add a QR code for this asset / slide as well.

Mears, Nick, 2025-05-15T12:53:47.751

**SS1 0** [@Mears, Nick] I have added the QR code to the 'Questions' slide (slide #53).

Sarkar, Subhasish, 2025-05-16T03:47:39.928

**MN1 1** May want to use the QR codes in place of the links, as they viewers cannot click on those links during presentation. With QR codes, they can.

Mears, Nick, 2025-05-16T12:13:48.963



**Anshul Agrawal**

Development Manager IMS products BMC |  
Mainframe advocate | Mentor & Coach | Agile Exp...





Thank you

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