


# 2023 CCDUG: IMS Managed ACBs Progress Report

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# Agenda

- How we started this journey
- Why & What is IMS Managed ACBs
- What all we have done
- What we are currently working on
- Summer 2023 Announcement
- Summary



# How it all began?

# IMS Catalog



- IMS Catalog was introduced in **IMS V12** (GA'd in October, 2011)
- Usage was and still is **optional**
- IMS Catalog is implemented as a **HALDB**
- Contains DBD, PSB metadata used by [Java programs accessing IMS databases](#)
- Required for some features introduced after IMS V12:
  - IMS Database Versioning (IMS V13)
  - **IMS Managed ACBs & DDL (IMS V14)**

# IMS Managed ACBs

- IMS Managed ACBs was introduced in **IMS V14** (GA'd in October, 2015)
- Is the [Infrastructure](#) for using **IMS DDL**
- Requires implementation of **IMS Catalog**



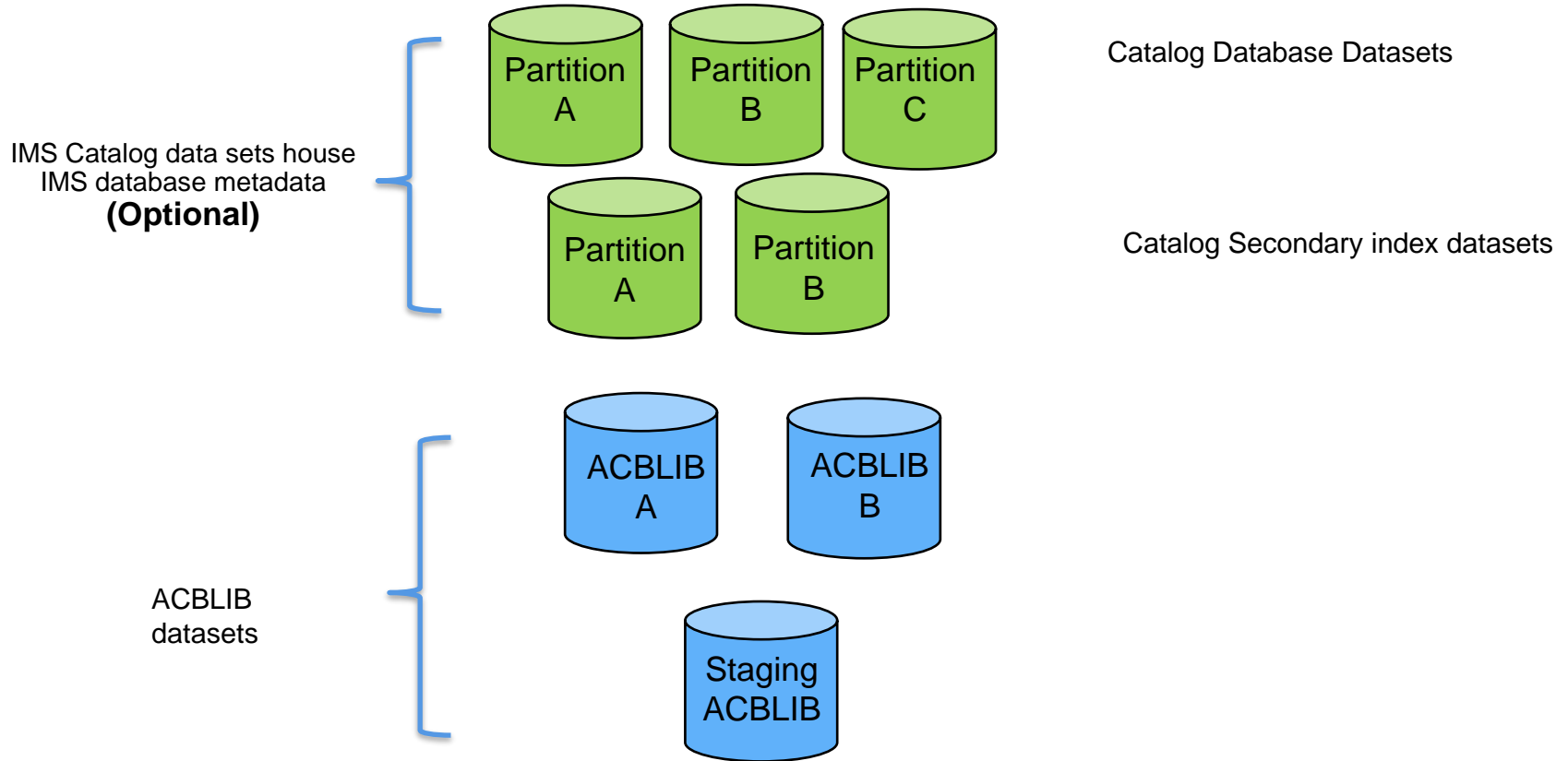
Q: Why IMS Managed ACBs?

A: Want a robust infrastructure of DDL



# IMS Managed ACBs (Robust Infrastructure for DDL)

# Non-IMS Managed ACB Environment





# ACBLIBs are not Robust

- ACBLIBs are PDS (Partitioned Datasets)
- PDSs need to be compressed to reclaim space
- PDS can fill up
- PDSs have gotten corrupted

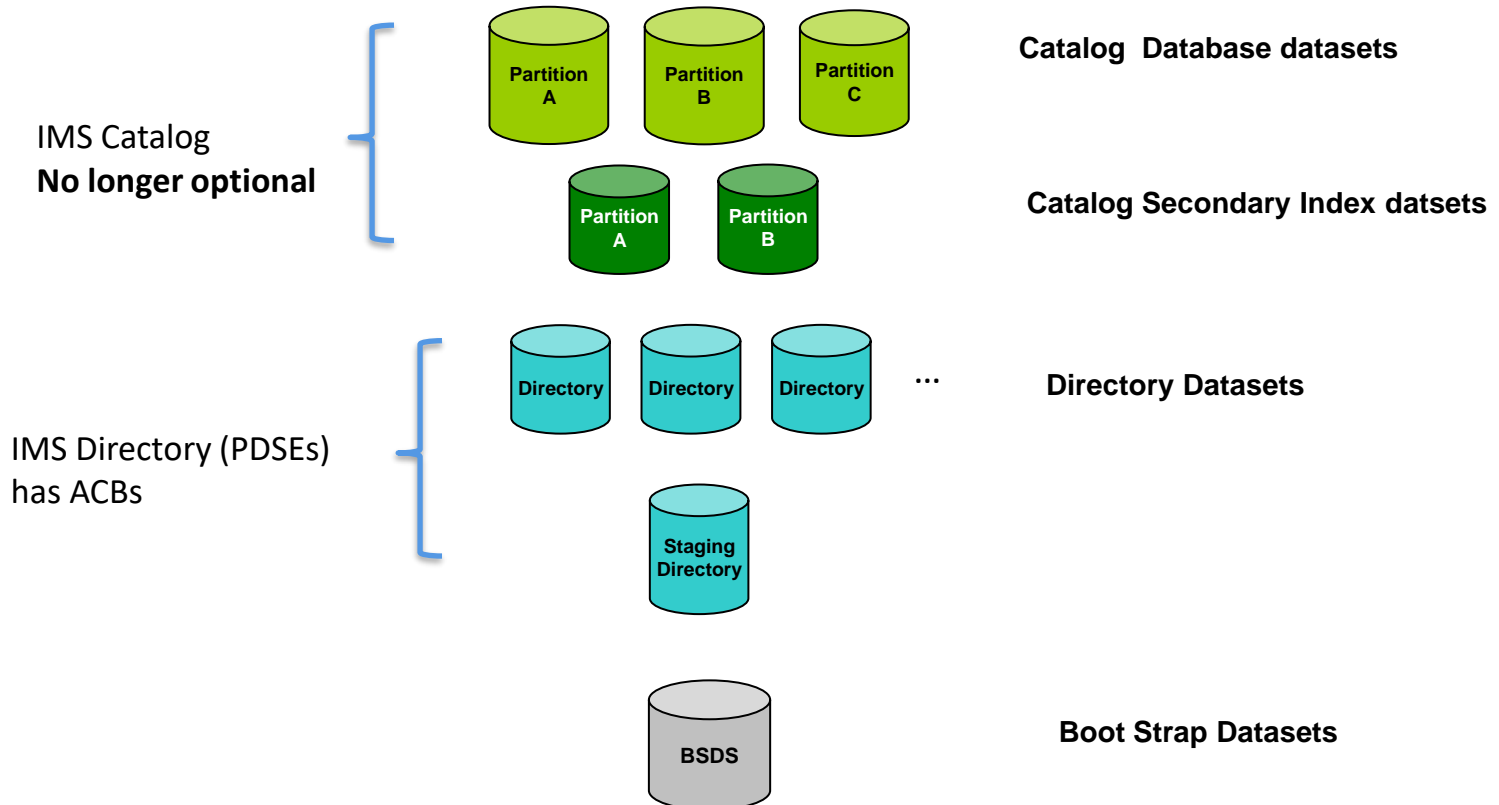
# PDSE benefits

- Automatic reuse of space
  - No manual compression required
- Allows up to 123 extents
- Maximum size of a PDSE member is 15,728,639 records
- Maximum number of PDSE members is 524,23
- All updates to a PDSE are atomic, unlike a traditional PDS
  - Canceled jobs or system crashes will not corrupt a PDSE
- Can be shared across a SYSPLEX

# IMS Managed ACBs:

- Replace ACBLIB PDS with PDSE & call it **IMS Directory**
- **Have Multiple Active directories**
  - No more 2 ACBLIBs (one active & one inactive).
  - Start with 2 IMS active directories
    - If you need more, IMS will automatically create a new one
- Boot Strap Data set (BSDS) keeps track of IMS directories.

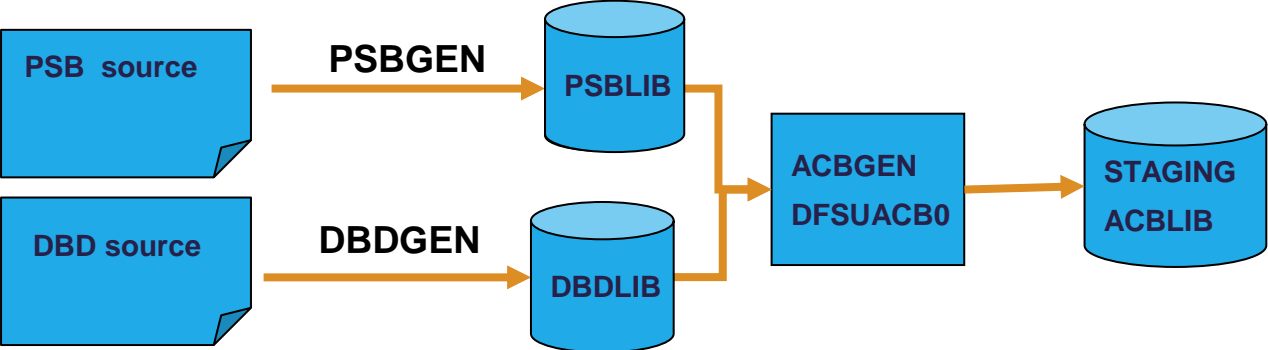
# IMS Managed ACBs Components



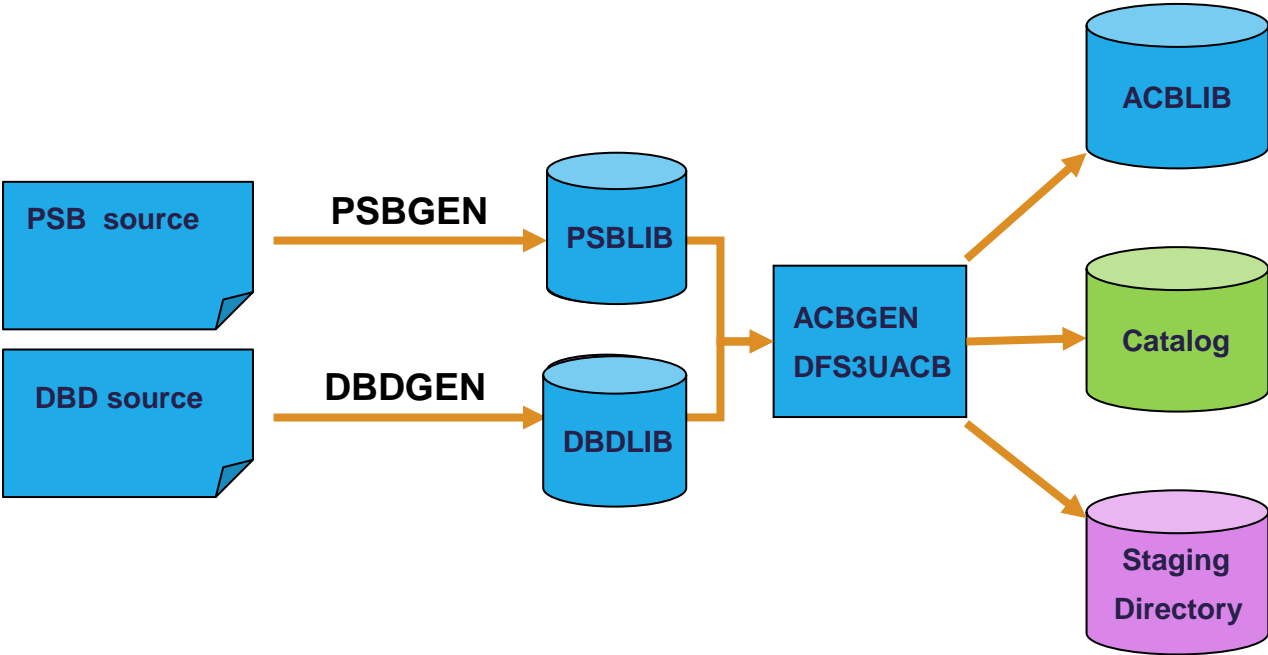
# Other changes in support of IMS Managed ACBs:

- ACBGEN
- Online Change

# Traditional gen process



# ACBGEN process in an IMS Managed ACB environment

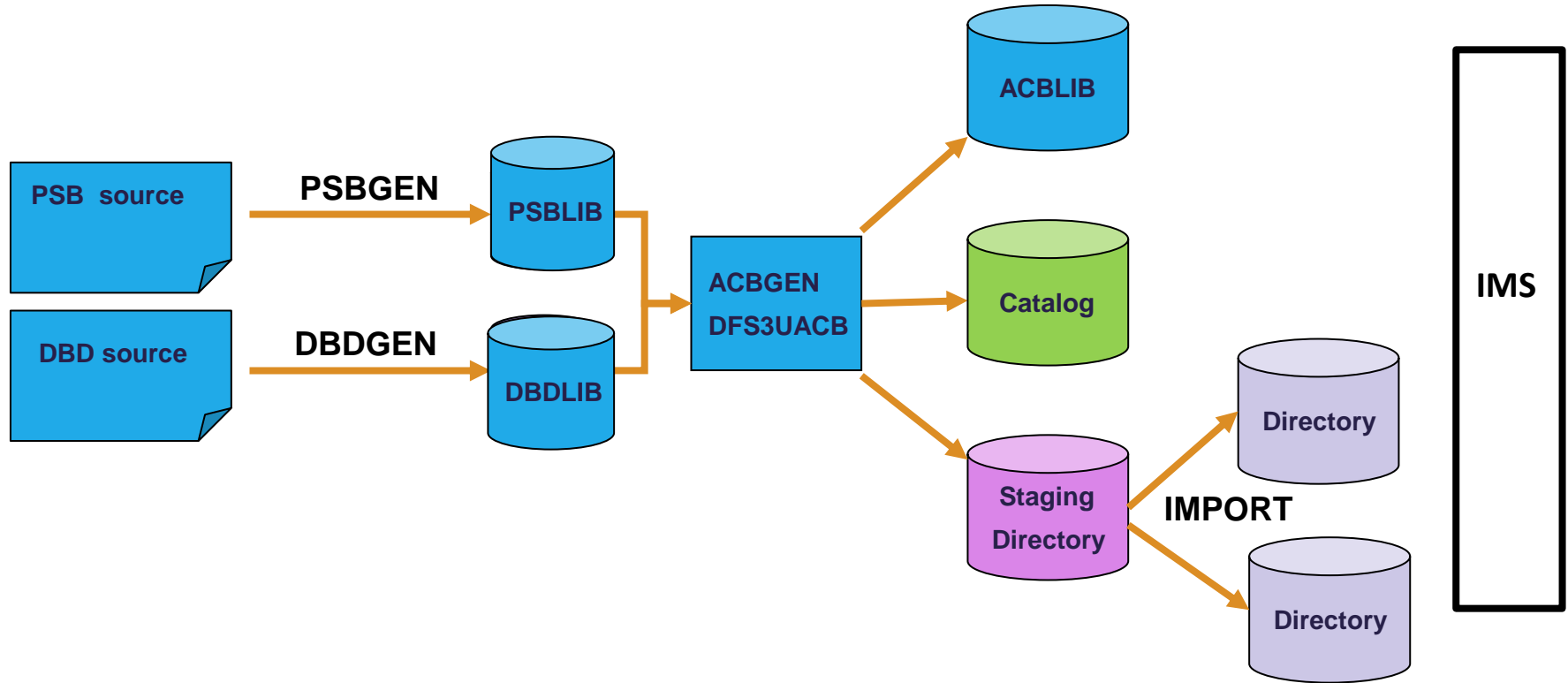


## Online change today (without Managed ACBs):

1. ACBGEN into Staging ACBLIB
2. Copy from Staging ACBLIB to the INACTIVE ACBLIB
3. Switch the active & inactive libraries:
  - /MODIFY PREPARE & /MODIFY COMMIT
4. If /MODIFY COMMIT fails, then /DIS MODIFY



# Online change in an IMS Managed ACB environment



# IMPORT DEFN Command

- Type 2 command
  - Requires SCI & OM and a SPOC
  - Requires SCI, OM & RM when ACBSHR=Y (Catalog is shared)
- IMPORT DEFN SOURCE(CATALOG)
  - Moves members from STG directory to active directories
  - Can specify NAME() parameter
    - Names can have wild cards
  - Single process
    - Messages for problems are displayed in the output
  - **Imported resources are logged in 7002 log records that have the names of the resources that are changed or added**



# The big announcement of 2017

# Statement of Direction (in IMS V15 announcement letter)

IBM IMS has evolved into a more dynamic system, based on continuous redesign that will ultimately eliminate the need for system generation. This redesign currently includes dynamic definition for resources such as application programs, databases, routing codes, transactions, OSAM buffer pools, VSAM share pools, MSC physical links, logical links, logical link paths, and remote logical terminals.

IMS 14 delivered optional support allowing IMS to dynamically manage application control blocks (ACBs). IMS-managed ACBs allows for the use of DDL to replace DBD and PSB generation processes. Databases and program views can be dynamically defined using SQL DDL statements instead of generation utilities, such as ACBGEN.

**IBM intends to require IMS management of ACBs in the future.** IMS and the IMS catalog must be set up to support ACB management. IMS provides a utility for this.

**At a later date, after the requirement for IMS-managed ACBs is in place, IBM also intends to remove the generation processes for PSBLIB, DBDLIB and ACBLIB. At that time, the IMS catalog, SQL, and DDL become the interface to IMS database management.**

These planned changes to IBM IMS will enhance availability, free up DBA resources, improve productivity, simplify operations, testing, and debugging, and accelerate time-to-value for new business solutions.

Statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.



# What have we done since the announcement?

# Sponsor User engagement

- 7 – 10 **sponsor users** from North America & Europe (includes both **clients & Vendors**)
- Sponsor Users have been testing with IMS Managed ACBs for several years now
- They provide:
  - Feedback
  - Requests for Enhancements
  - Uncovered issues / defects
  - Some sponsor users have been in Production for a couple of years now
- **IMS lab** has been listening to the sponsor users:
  - We have implemented many Requests for Enhancements
  - Fixed defects
  - Improved / clarified documentation
- **Some sponsor users are already in production for a few years now**



What are we currently working on?

## No Dynamic Attach of Catalog PCBs to user PSBs (APAR PH14717)

- **Problem:**
  - When the Catalog is enabled, IMS dynamically attaches 3 Catalog PCBs to every user PSB.
  - Because application now get 3 additional PCB addresses, this causes overlays in applications written in Assembler.
- **APAR PH14717:**
  - A new option in the CATALOG section of the DFSDFxxx proclib member is CATPSBATTACH = N|NO|Y|YES ( the default is Y|YES ). When this new option is set to NO the IMS catalog PSB/PCBs will not be attached to the user's PSB.



## Current status of APAR PH14717

- A fixtest was provided to clients that have been waiting on this APAR.
- Awaiting feedback from sponsor users.

# Catalog Maintenance Utility (CMU)

## **Description:**

The Catalog Maintenance Utility (CMU) will allow changes to be made to the IMS Catalog without an outage.

## **Status:**

Beta code will be available to sponsor users in about a month

# IMS utilities support for IMS Managed ACBs

## **Description:**

Enable the ability for all IMS utilities to obtain their DBD metadata from the Catalog

## **Status:**

Currently proceeding very well

# Logical DBDs in IMS Directory

## **Description:**

Currently Logical DBDs reside in the DBDLIB and not the ACBLIB.

Similarly in an IMS Managed ACB environment, logical DBDs currently don't reside in the IMS Directory.

With DDL, the PSBLIB, DBDLIB & ACBLIB won't be used.

So where do we place Logical DBDs? The obvious answer is in IMS Directory.

## **Status:**

Work has begun



# SOD Announcement in IMS 15.4 announcement

# Summer 2023 Announcement

Statement of direction

## IMS management of ACBs

IBM intends to require IMS management of application control blocks (ACBs) for IMS Database (DB) clients in **June 2025**.

For **IMS Transaction Manager (TM) only clients**, IBM intends to provide support for IMS Management of ACBs. Following that support in future IBM IMS releases, IBM intends to require IMS management of ACBs for IMS Transaction Manager (TM) only clients.

Additionally, in future IMS releases, IBM intends to remove the generation processes for Program Specification Block Library (PSBLIB), Database Description Library (DBDLIB), and Application Control Block Library (ACBLIB). At that time, **the IMS catalog, SQL, and DDL** become the interface to IMS database management.



# Summary

## Summary / Message

- **We are committed to IMS Managed ACBs & DDL**
  - We have assigned significant resources to shoring up IMS Managed ACBs & DDL
- **Vendor community is also committed to making sure tools support IMS Managed ACBs**
- **Suggestion to our clients:**
  - Start testing / playing with IMS Managed ACBs early
    - Test every possible scenario
  - Take us up on our offer:
  - **We are available to help you when you start to implement IMS Managed ACBs (free of cost)**



Thank You