



Welcome to the Virtual IMS user group newsletter. The Virtual IMS user group at www.fundi.com/virtualims is an independently-operated vendor-neutral site run by and for the IMS user community.

Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "The IMS Catalog Revolution", and was presented by Deepak Kohli, Senior Software Engineer, IMS Product Management Team, IBM.

Deepak works at IBM's Silicon Valley lab. Currently, he is part of the IMS product management team providing product direction. In the past, Deepak has also been part of the IMS SOA core team, helping customers SOA-enable their IMS systems. Deepak also provides IMS Level 2 technical support, specializing in IMS On-Demand and TM areas. He has a Masters in Computer Science from NYU. In the area of IMS, Deepak's experience ranges in applications, DBA, Systems,

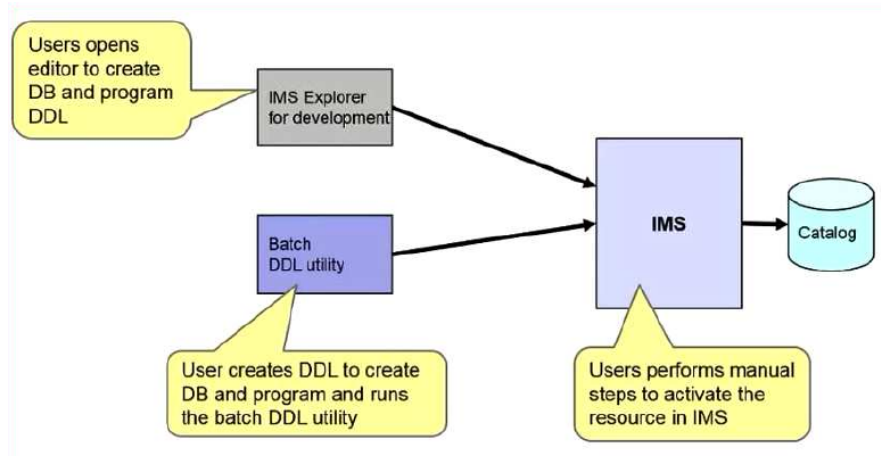


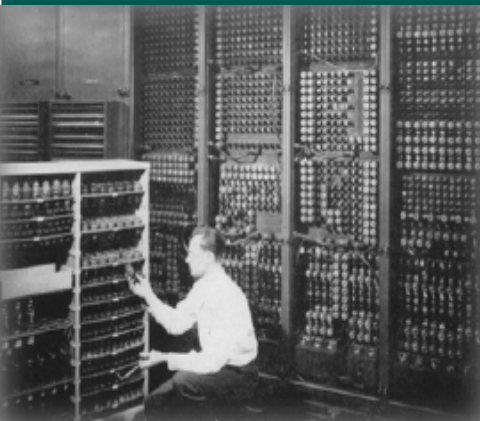
Figure 1: Creating a PHDAM database

performance tuning, and problem determination. He has also taught various IMS and DB2 courses. His presentations (according to Deepak) have won him rave reviews at conferences worldwide.

Deepak started his presentation by explaining what an IMS catalog was. He said it was an optional database from IMS 12

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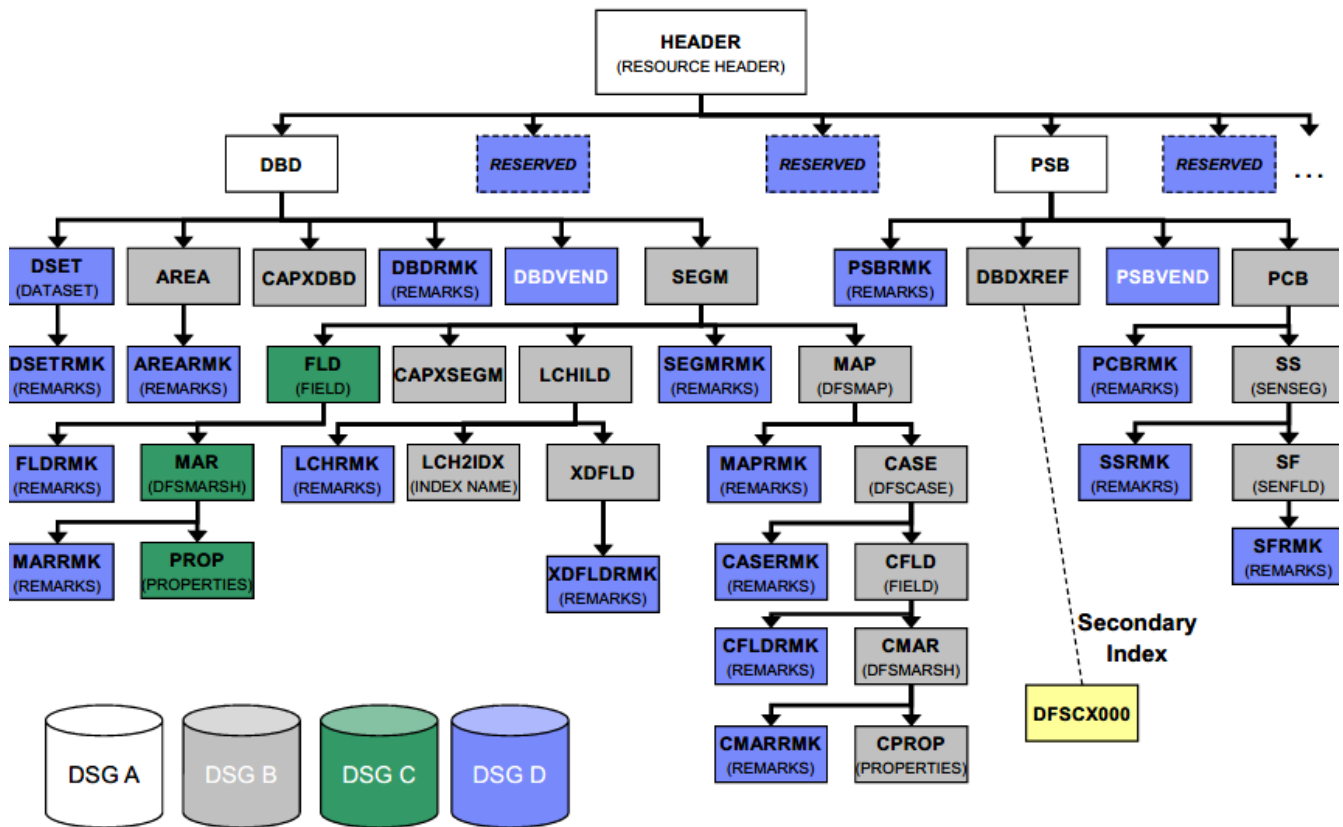


Figure 2: Physical catalog structure

onwards, and that it was an IMS High Availability Large Database (HALDB). It's a trusted online source for IMS database and application metadata information and is fully managed by IMS. It's accessible by standard JDBC/SQL, COBOL/SQL in IMS 13, and traditional DL/I access. Applications and tooling can access the online IMS catalog. Universal JDBC drivers for metadata exchange and discovery enable better scalability for large Open Database Access deployment. The IMS catalog is a significant component of the IMS simplification and integration strategy, and it's

the foundation for features available in IMS 13 and later.

An IMS catalog enables scalable and flexible IMS Open Database solutions. Applications no longer need to maintain local Java metadata in order to interact with IMS. The metadata is used by the IMS Universal JDBC driver to allocate PSBs, issue DL/I calls, perform data transformation, and translate SQL queries to DL/I calls. Applications can reference the online IMS catalog. There are powerful tools for metadata discovery, such as: which PSBs have PCBs with labels; which

databases have exits; which PSBs have update access to a specific database; and which PSBs are affected if a DBD is changed.

IMS products that can use the catalog include: IMS Explorer for development; Cognos 10.2, InfoSphere Data Architect; IBM Data Studio; Rational Asset Analyzer; IBM MobileFirst; InfoSphere DataStage; and InfoSphere Metadata Asset Manager (IMAM).

IMS 13 features that require the catalog are: Database Versioning; IMS native SQL support for COBOL;

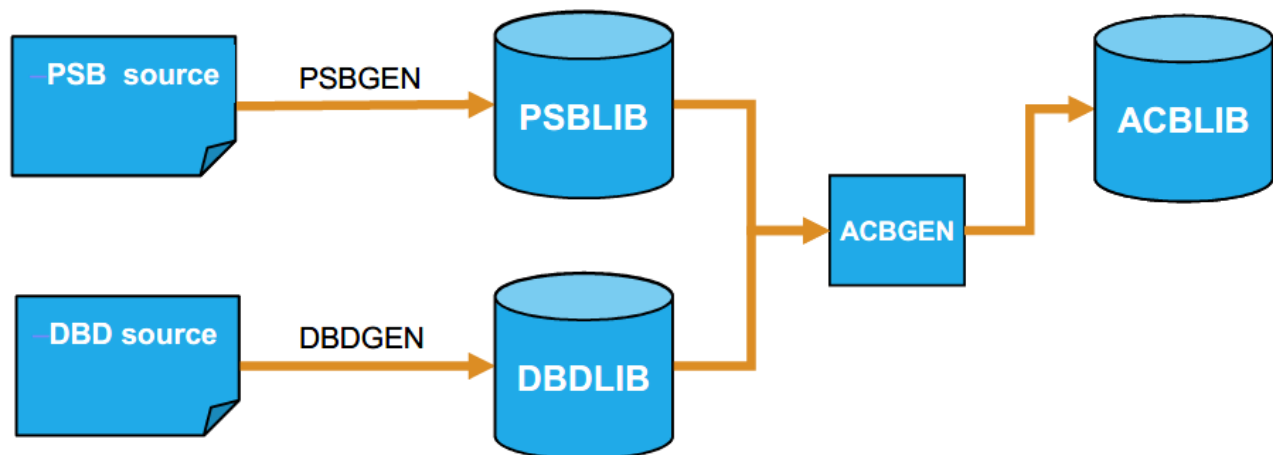


Figure 3: The ACBGEN process

and .Net access to IMS data. IMS 14 features that require the catalog are: IMS V14 Dynamic Database Definition; and IMS V14 managed ACBs.

There are differences between the catalog and the Repository. The catalog is an IMS database. It contains information about PSB/DBD resources (database structure definitions, physical database definitions, segment definitions, field definitions), and applications (data types, application-defined fields, encodings, redefines, user defined types, and structures). Some IMS TM sites use DB2 for their database rather than IMS DB, so the catalog is not available for them. They can use the repository, which is a VSAM file. It contains: MODBLKS resources (program definitions and

transaction definitions); FORMAT resources; and application I/O message definitions.

With the IMS catalog, database and program resources are defined to an IMS system, and relevant application information is stored as metadata in the IMS catalog. The IMS catalog can be updated when IMS resources or application information is created, altered, or deleted. Updates to the IMS catalog are done using integrated IMS processes. The Catalog Populate Utility is used for the initial catalog load and member updates. Catalog metadata can be used to: enhance understanding of the data; improve consistency of the data; improve impact analysis of the data; improve

development productivity; and improve data governance.

The physical catalog structure is shown in Figure 2. Figure 3 illustrates the ACBGEN process. The catalog can be populated using the ACBLIB and the catalog Populate Utility. This is only performed once. PSB and DBD information in the catalog can be viewed using IMS Explorer.

The IMS catalog supports many environments: one catalog per system; one catalog per sysplex; or any combination of shared and independent catalogs. Each IMS system can be linked to only one instance of the IMS catalog, regardless of the system configuration.

Figure 4 shows multiple IMSes, cloned ACBLIBs, \

Shared CATALOG DB
 Shared DFSDFxxx
 ALIAS=DFSC

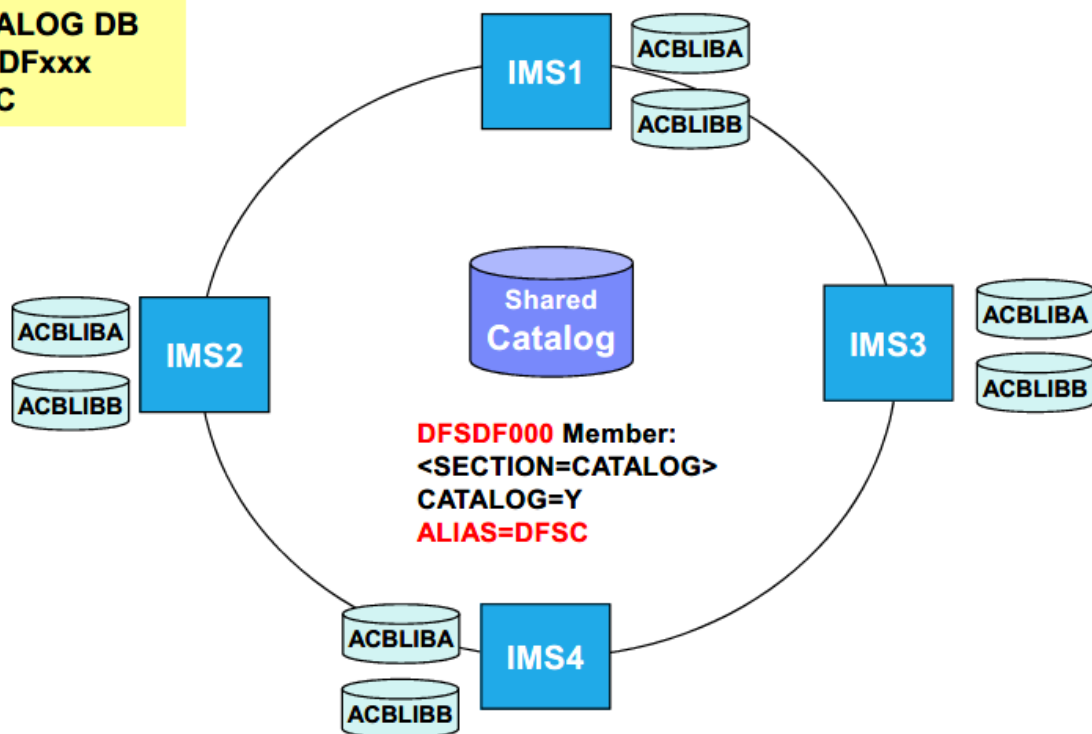


Figure 4: Multiple IMSes, cloned ACBLIBs, shared catalog

and a shared catalog.

IMS 14 enables dynamic definition and modification of IMS database and program resources directly into the IMS catalog. This leverages the use of industry-standard DDL commands; provides an alternative to the existing DBDGEN, PSBGEN, and ACBGEN; and it provides an audit trail to capture information about catalog updates. IMS 14 enables IMS to manage the loading of runtime ACBs, from the IMS catalog (IMS-managed ACBs). DBD, PSB, and ACB libraries are no longer needed for IMS runtime – although, the libraries may be needed for tools,

utilities, and other resources. Users are responsible for keeping DBD, PSB, and ACB resources in sync with the IMS catalog.

Creating a PHDAM database is illustrated in Figure 1.

An IMS catalog has several components: a catalog HALDB database (with many partitions and four dataset groups); a secondary index; and directory data sets.

In conclusion, Deepak reminded everyone that the IMS catalog is simple to implement, but users need to remember that it is an IMS database and needs to be treated like a database.

A copy of Deepak’s presentation is available for download from the Virtual IMS user group Web site at www.fundi.com/virtualims/presentations/IMSCatalogRevolutionAug16.pdf.

Meeting dates

- On 4 October 2016, SQData’s Scott Quillicy will talk about, “IMS to Big Data - Common Traits of Successful Implementations”.

As Big Data transitions from hype to reality, many companies are now in the latter stages of deploying Big Data

solutions. This evolution has highlighted several common traits for a successful deployment. It has also uncovered many pitfalls that can doom even the most simple of use-cases. Avoiding these pitfalls, while embracing the successful traits, is critical to delivering a Big Data solution that provides value to the end users. Observation has shown that companies that employ best practices from the beginning, especially with regard to the overall approach (Agile, DevOps) and design have a very high success rate. On the flip side, those with the 'we need something yesterday...let's just move the data' mentality typically end up looking for new jobs when the deployment does not meet expectations.

This presentation highlights the key traits / best practices for successful IMS to Big Data deployments based on actual customer examples.

- The following meeting will be on 6 December 2016, Correlog's George Faucher will be discussing, "Monitoring IMS".

Recent IMS articles

Continuous IMS application deployment using IBM UrbanCode by Evgeni Liakhovich on z Systems Developer Community (5 August 2016). You can find the article at <https://developer.ibm.com/zsystems/2016/08/05/continuous-ims-application-deployment-using-ibm-urbancode-deploy/>

IBM IMS Helps Support Innovation to Stay Competitive by Barry Baker and Sandy Sherrill in IBM Systems Magazine (July 2016). You can find the article at <http://www.ibmssystemsmag.com/mainframe/administrator/ims/competitive-innovation/>

The Latest CICS and IMS Updates Place z Systems at the Center of the API Economy by Kristin Lewotsky in IBM Systems Magazine (July 2016). You can find the article at <http://www.ibmssystemsmag.com/mainframe/trends/whatsnew/CICS-IMS-API/>

Sponsorship opportunity

Are you missing a great opportunity to advertise your IMS software?

The Virtual IMS user group is now offering software

vendors the opportunity to advertise their products in a number of ways. You could have an advert on the home page of the Web site (at www.fundi.com/virtualims), you could advertise in the newsletter, and/or you could advertise in the monthly e-mails sent to members of the user group.

E-mail trevor@itech-ed.com for full information about marketing opportunities with the Virtual IMS user group.

About the Virtual IMS user group

The Virtual IMS user group was established as a way for individuals using IBM's IMS hierarchical database and transaction processing systems to exchange information, learn new techniques, and advance their skills with the product

The Web site at www.fundi.com/virtualims provides a central point for coordinating periodic meetings (which contain technically-oriented topics presented in a webinar format), and provides articles, discussions, links, and other resources of interest to IBM IMS practitioners. Anyone with an interest in IMS is welcome to join the Virtual IMS user group and share in the knowledge exchange.

To share ideas, and for further information, contact trevor@itech-ed.com.

The Virtual IMS user group is free to its members.

#VirtualIMS