Highlights

- Manages the integrity of key IMS database resources: DBDs, PSBs, and ACBs

- Maintains consistency between the IMS Catalog and the IMS ACBLIB data set

- Advanced ACBGEN reduces elapsed time and CPU time for large numbers of PSBs over standard IMS ACBGEN utility

- Provides comparisons and mappings of DBD, PSB, and ACB structures

- Recreates MFS source code from existing MFS control block libraries

- Integrated with the IMS Management Console to provide a graphical mapping of PSB and DBD structures

- Program Number: 5655-U08

IMS Library Integrity Utilities

Provides IMS Database Administration and Change Management

IMS™ is IBM's premier transaction and hierarchical database management system. IMS was designed for high availability, superior performance, growth and capacity, and full database integrity. The ability to operate and manage this highly complex IMS system and database environment determines the Total Cost of Operation (TCO). The IBM® IMS Tools lowers TCO by equipping IMS system programmers and IMS database administrators (DBAs) with the facilities they need to effectively monitor and manage this mission-critical environment. The IBM IMS Tools provide automation, validation, and auditing of all database and transaction management activities.

The *IMS Library Integrity Utilities* provide all of the core IMS Database Administrator (DBA) core facilities to administer and manage IMS database resources. With this tool, IMS DBAs can manage and track changes to database definitions. They can propagate changes to other IMS environments, too. The *IMS Library Integrity Utilities* allow IMS DBAs to manage the DBD, PSB, ACB, and MFS libraries and the DBRC RECON data set. This tool allows IMS DBA's to bring consistency and integrity to sophisticated IMS database administration tasks.

IMS Library Integrity Utilities

The *IMS Library Integrity Utilities* ensure the IMS DBD, PSB, ACB, IMS Catalog, RECON, and MFS libraries are consistent and have full integrity. The tool provides facilities to map and compare database control blocks in these libraries and to recreate source members from compiled control blocks. There is a sophisticated graphical user interface that shows the relationships between the IMS database definitions, too.

IMS Database Solution Key Component

The *IMS Library Integrity Utilities* are part of the *IMS Database Solution Pack* as shown in Figure 1. It is also a key component of the *IMS Fast Path Solution Pack* as shown in Figure 2.

Figure 1: IMS Library Integrity Utilities in the IMS Database Solution

Figure 2: IMS Library Integrity Utilities in the IMS Fast Path Solution Pack

IMS Database Resource Integrity and Consistency

When an IMS database is loaded with one set of database definitions and then later accessed with another set of database definitions, problems can occur that can result in data integrity issues. This is a common problem that can occur when a batch program uses a test DBD library to update a production IMS database. A similar problem can occur when a batch program uses a new DBD before the database was reorganized. The IMS system will not prevent these types of errors and IMS DBRC can not prevent them either. The *IMS Library Integrity Utilities* can catch these problems before they create serious data integrity problems in IMS production databases. The tool has the facilities to prevent both IMS batch and online applications problems by verifying the IMS control blocks during database authorization.

The *IMS Library Integrity Utilities* ensures IMS DBD (database) and PSB (application) resources are consistent between a number of key libraries. For example, when an IMS DBD is created, it will need to have an IMS ACB (application control block) which resides in the IMS ACB library or the IMS Catalog. It will likely reside in the IMS MODBLKS data set or the IMS Resource Definition Data Set (RDDS) and it may need to be included in the DFSMDA (dynamic allocation) data set. If the database is registered to IMS DBRC, there will need to be DB and DSG records recorded in the RECON data set. Similarly, when a PSB is created, an ACB is needed in the IMS ACB library or the IMS Catalog. The application definition is required in the IMS MODBLKS data set or the IMS RDDS data set. The IMS Library Integrity Utilities guarantee that all of these database relationships and definitions exist when the DBD and PSB are created.

The *IMS Library Integrity Utilities* have special functions to ensure the IMS ACB library is consistent and free of problems. The tool verifies that all ACB members were created at the same IMS version and release level. It also provides a facility to create an IMS ACB from the IMS DBD and PSB control blocks. This facility is much faster than the standard IMS ACB generation utility that is provided by the IMS product.

IMS Database Multiple Resource Checking

The *IMS Library Integrity Utilities* also verify the consistency of IMS database and application resources across multiple libraries. The tool can check up to 10 libraries in one job to ensure consistency between IMS DBD, PSB, and ACB definitions and between IMS DBRC DB and DSG records in the RECON data sets.

IMS Database and Application Comparisons

The *IMS Library Integrity Utilities* can compare IMS DBD and PSB control blocks that have the same or different names and reside in the same or different libraries. A DBD Block Level Compare report and a DBD Source Level Compare report is shown in Figure 4 and Figure 4.

Figure 3: IMS Library Integrity Utilities DBD Block Level Compare Report

Figure 4: IMS Library Integrity Utilities DBD Source Level Compare

IMS Database, Application, and Screen Reversals

The *IMS Library Integrity Utilities* can convert IMS DBD, PSB, and ACB control blocks back into their original utility control statements. This is useful when the original source libraries can no longer be found and the definitions need to change.

IMS Communications and Connections Comparisons

The *IMS Library Integrity Utilities* can also compare IMS Message Format Service (MFS) terminal screen definitions that reside in the same or different IMS MFS libraries.

IMS Communications and Connections Reversals

The *IMS Library Integrity Utilities* can also convert the IMS MFS control blocks back into their original utility control statements. For the IMS MFS control blocks, the reversal process recreates the IMS Message Input Descriptor (MID) and the IMS Message Output Descriptor (MOD) definitions that describe how the terminal screen should be formatted and the Device Input Format (DIF) and Device Output Format (DOF) that describe the actual screen layout of the device. An example of an MFS Reversal report is shown in Figure 5.

Figure 5: IMS Library Integrity Utilities MFS Reversal Report

IMS Library Integrity Utilities Reports Generated

The *IMS Library Integrity Utilities* create many reports to help IMS Database Administrators manage the IMS DBD, PSB, ACB, and MFS libraries, the IMS DBRC RECON data set, and the IMS Catalog. There are detailed mappings of the IMS DBD, PSB, and ACB definitions.

There are matrix reports showing the comparisons between multiple database and application libraries. There are also reports that summarize the contents of all of the IMS DBD, PSB, and ACB library data sets. An example of the RECON Difference Report is shown in Figure 6.

Figure 6: IMS Library Integrity Utilities RECON Difference Report

Graphical User Interface

When the *IMS Library Integrity Utilities* DBD/PSB Viewer extension is installed to the *IBM Management Console*, the user can gain a graphical view of the IMS database and application structures. The IMS DBD and PSB source can be seen as well as the relationships between the IMS DBDs and the logical DBDs, and the DBDs and the PSBs. An example of the IMS PSB Viewer is shown in Figure 7.
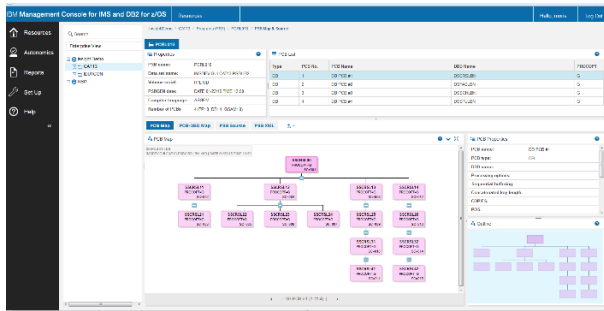

Figure 7: IMS Library Integrity Utilities PSB Viewer in IBM Management Console

For more information

To learn more about the IBM IMS Tools product line, please contact your IBM representative or IBM Business Partner, or visit: ibm.com/software/data/db2imstools/products/ims-tools.html