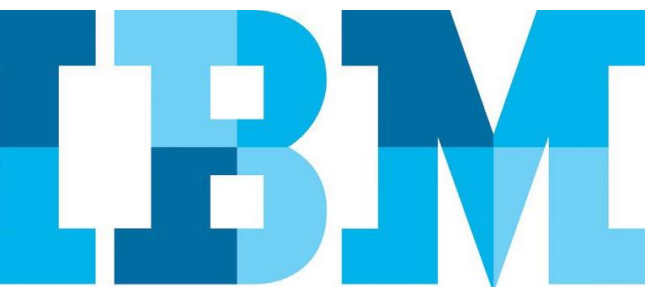## Highlights

- Provides high speed backup and recovery of IMS database data sets using advanced IBM, EMC, and Hitachi copy technology

- Supports Batch (Clean) and Concurrent (Fuzzy) image copies

- Seamlessly integrated with IMS High Performance tooling to create image copies during reorganizations and recoveries for IMS Full Function and IMS Fast Path databases

- Program Number: 5655-N45

IMS High Performance Image Copy

Creates High Speed Backup and Recovery Database Resources

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 High Performance Image Copy* tool uses advanced copy technology to create backup copies of IMS database data sets. It automates the error-prone manual operations normally required to create IMS image copies. The *IMS High Performance Image Copy* tool supports IBM FlashCopy, EMC TimeFinder, and Hitachi's FlashCopy Emulation fast-replication technologies. It supports the creation of image copies when the databases are taken offline as well as the concurrent image copies when the databases remain available to applications. The *IMS High Performance Image Copy* tool is fully integrated with the *IMS Online Reorganization Facility* tool, the *IMS Database Reorganization Expert* product, the *IMS Recovery Solution Pack*, and the *IMS Fast Path Solution Pack*.

IMS High Performance Image Copy

The *IMS High Performance Image Copy* tool creates image copies which are one of the key resources involved in recovering IMS databases. The tool supports several different types of image copying and both IBM and non-IBM fast replication storage processing solutions. The *IMS High Performance Image Copy* tool interfaces with the IMS command processor to eliminate the need to stop and restart the IMS database. In addition to image copying the IMS database, the *IMS High Performance Image Copy* product allows copies to be made of the IMS database data sets.

The *IMS High Performance Image Copy* product is part of four IBM Solutions. The first is the *IMS Database Solution Pack* as shown in Figure 1. The second is the *IMS Database Utility Solution* as shown in Figure 2. The third is the *IMS Fast Path Solution Pack* as shown in Figure 3. And the fourth is the *IMS Recovery Solution Pack* as shown in Figure 4.

IMS Online Reorganization Facility tool to create image copies following database reorganizations. Finally, the *IMS High Performance Image Copy* tool is integrated with the *IMS Database Recovery Facility* to create image copies following database recovery.

Figure 2: IMS High Performance Image Copy in IMS Database Utility Solution

Figure 1: IMS High Performance Image Copy in IMS Database Solution Pack

Figure 3: IMS High Performance Image Copy in IMS Fast Path Solution Pack

Figure 4: IMS High Performance Image Copy in IMS Recovery Solution Pack

The *IMS High Performance Pointer Checker* tool and the *DEDB Pointer Checker* tool of the *IMS Fast Path Solution Pack* can be invoked during image copy processing to ensure database pointer correctness. The *IMS High Performance Image Copy* tool is also integrated with both the *IMS Database Reorganization Expert* tool and the

IMS Batch vs. Concurrent Image Copies

The *IMS High Performance Image Copy* can create "Batch" image copies or "Concurrent" image copies. A Batch image copy is sometimes referred to as a "Clean" image copy. It is created when the IMS database is taken offline with a /DBR or /DBD command or stays online with the IMS DB QUIESCE command. A Concurrent image copy is created while the IMS database is still available for updating. It is sometimes referred to as a "Fuzzy" image copy. A Concurrent image copy requires the IMS archived log data sets for recovery as updates may have occurred during the time when the image copy was created.

Fast Replication Support (IBM, EMC, Hitachi)

The *IMS High Performance Image Copy* tool supports fast replication storage processors from IBM, EMC, and Hitachi. In IBM, the tools invokes IBM FlashCopy. With EMC, the tools uses the EMC TimeFinder support. With Hitachi, the tool invokes the FlashCopy support provided by Hitachi Emulation software. These storage processors allow image copies to be taken without taking the databases offline by managing the copying of the data at the storage processor level.

Generates Statistical Reports

The *IMS High Performance Image Copy* tool generates process summary reports during image coping processing as shown in Figure 5. These reports keep a record of image copies created and all reports are stored in the *IMS Tool Knowledge Base (ITKB)* repository for centralized viewing and historical analysis.

IMS HIGH PERFORMANCE IMAGE COPY 5655-N45						"IMAGE COPY PROCESS SUMMARY REPORT" DATE: 11/01/2011 TIME: 12.38.36			PAGE: 2 FABJMAIN - V4.R2
DB NAME	PART AREA	DD NAME	IC TYPE	IC RC	HASH STATUS	COMP RC	IC REG	
DBHDAM10		HDAMDD10	IC	00	OK	00	REG	
PHDV0100	PHDV01A	PHDV01AA	IC	00	-	-	REG	
DEDBJN23	DB23AR0		IC	08#	WARN	00	BYP	
DBHDAM20		HDAMDD20	IC	08#	WARN	-	BYP	
HISAM000		HISAM000	IC	00	OK	00	-	
HISAM000		HISAM001	IC	00	OK	00	-	
DEDBJN23	DB23AR1		IC	16#	WARN	16	BYP	
DX41TS01		DX41TSDD	VIC	00	OK	-	REG	
DH41TS01		DH41TSDD	IC	08I	SEVERE	00	BYP	

NOTE:

IC RC : INDICATES THE RETURN CODE BY THE IMAGE COPY PROCESS OF THE DATABASE DATA SET.
"#" INDICATES THAT THE DATABASE DATA SET IS TO BE REPROCESSED BY CHECKPOINT RESTART FUNCTION.
"I" INDICATES THAT THE DATABASE DATA SET IS NOT TO BE REPROCESSED BECAUSE OF THE SEVERE DB ERROR.

Figure 5: IMS High Performance Image Copy Process Summary Report

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