

## COPY PLUS for DB2



### Benefits

- > Significantly reduces elapsed time and CPU usage by copying DB2 data faster and more efficiently than other utilities
- > Ensures data integrity
- > Offers flexibility in copying table spaces and indexes
- > Simplifies and enhances SYSCOPY and BMCXCOPY maintenance

### Features

- > Produces specialized hardware Instant Snapshots (in conjunction with SNAPSHOT UPGRADE FEATURE and used for recovery with RECOVER PLUS)
- > Produces consistent copies with an outage of only a quiesce (with SNAPSHOT UPGRADE FEATURE)
- > Automatically backs up indexes that meet or exceed a user-specified size threshold
- > Includes the MODIFY command for SYSCOPY and BMCXCOPY maintenance
- > Real-time statistics support
- > Supports DB2 7.1 and DB2 8.1

### YOUR BUSINESS CHALLENGE

Backing up mission-critical data becomes a logistical challenge as the amount of data grows exponentially, while acceptable outage levels shrink. To ensure that your data is recoverable at all times, you need answers to these questions:

- > How do you minimize backup time and costs?
- > How do you ensure that you can maintain data integrity?
- > How do you maintain maximum data availability during backups?
- > How do you ensure that your JCL is coded correctly the first time?
- > How can you afford to back up data often enough to facilitate rapid recoveries?

### BMC SOFTWARE ANSWERS THE CHALLENGE

With the COPY PLUS product from BMC Software you can effectively prepare for a fast DB2 recovery. Offering unmatched speed, availability, and functions not found in any other copy utility, COPY PLUS saves you time setting up, restarting, and maintaining backup jobs.

#### DB2 8.1 Exploitation

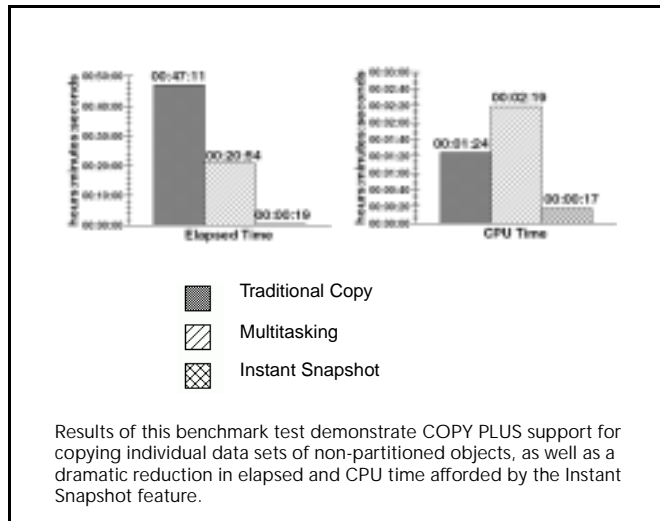
RECOVER PLUS supports DB2 8.1 by providing support for the following features:

- > up to 4096 partitions
- > long names (up to 128 characters) for creator, table, index, and STOGROUP names
- > online schema evolution, including recovery support for all ALTERs such as
  - adding partitions
  - rotating partitions
  - changing limit keys
- > Unicode object names (including RECOVERY MANAGER group objects)
- > table-controlled partitioning
- > data-partitioned secondary indexes (DPSIs)
- > variable CISIZE
- > long keys (up to 2000 bytes) and nonpadded varying-length index keys

#### Fast and Smart

COPY PLUS gives you the speed that you need to compensate for a shrinking batch window and growing table spaces. The speed lets you make frequent image copies so you can perform a faster recovery. Benchmarks show that COPY PLUS saves you time and resources. COPY PLUS also provides a better way to back up your table spaces and indexes by automating much of the effort and by copying the minimum amount of necessary data. COPY PLUS features include:

**Incremental Copy Features.** COPY PLUS can produce a cumulative incremental copy that combines all changes since the last full copy into a single incremental copy. This ability saves time and money by reducing the number of image copy resources required at recovery time. COPY PLUS can also produce a more traditional incremental copy including only those pages that changed since the last copy.



**Exclusive RUNSTATS Feature.** COPY PLUS lets you make an image copy and update table space statistics with one pass through the data, reducing elapsed time by more than 60% and CPU time by more than 90%. This feature provides significant performance and resource savings. The BMCSTATS option also allows you to update statistics that are stored in BMC Software tables for use with the BMC Software DASD MANAGER PLUS product.

**Dynamic Media Selection.** COPY PLUS lets you automatically change the output location or name of a full copy, based on a user-specified size threshold. For example, you might choose to back up relatively small objects to disk, while sending backups for large objects to tape. COPY PLUS automatically monitors object size and backs up accordingly.

**Automated JCL Generation.** COPY PLUS eliminates manual coding of JCL and includes the following features:

- > Easily restarts with the NEW/RESTART command
- > Dynamically allocates output copies
- > Calculates disk size
- > Automates tape stacking
- > Simplifies job maintenance by using wildcards, lists, and the EXCLUDE option

**Usability Features.** COPY PLUS offers the following features to streamline the backup process:

- > Wildcard support
- > Dynamic tape stacking
- > Disk sizing
- > Incremental copy features

**Stacked Tape Analysis.** COPY PLUS improves the performance of processing stacked tapes by determining the proper order and eliminating tape rewinding or multiple tape mounts.

### Cost-Effective

COPY PLUS saves you money by minimizing the use of resources. COPY PLUS uses significantly less CPU time than any other utility and offers media savings through the use of incremental copies, logical page compression, and synergy with the BMC Software PACLOG for DB2 product for disk compression.

**Increased Availability.** The more important your data, the less time you can afford to have it offline. COPY PLUS lets you make copies with minimal impact, resulting in cost and time savings. Multitasking features of COPY PLUS provide superior performance and availability.

**Multitasking.** COPY PLUS can divide the work into 32 or fewer concurrent subtasks, reducing the time required for backing up your applications to a fraction of the current time. COPY PLUS can also register copies at a consistent point for easier recovery. In addition, COPY PLUS can multitask tape copies.

**Non-disruptive Copies.** A Snapshot Copy option for COPY PLUS provides read-and-write support, allowing data to be updated while providing a consistent, registered copy of a table space.

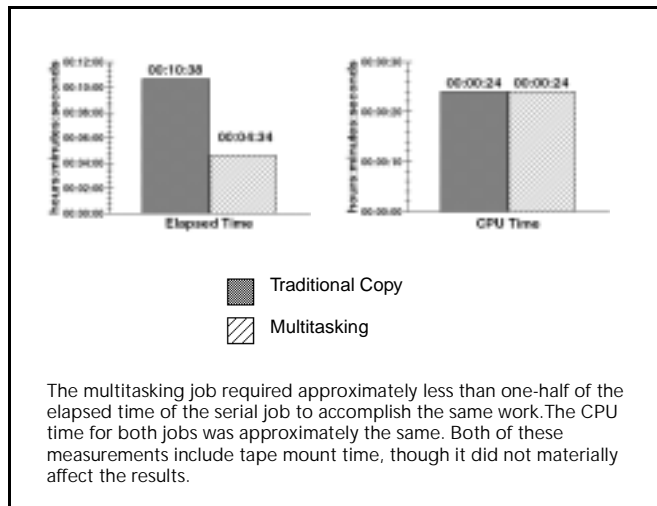
SHRLEVEL CHANGE copies from COPY PLUS run outside of DB2. There is no buffer or locking interference, making copies completely non-intrusive. A Snapshot Copy offers all the benefits of a concurrent copy without the hardware requirements and limitations.

Hardware exploitation with the BMC Software SNAPSHOT UPGRADE FEATURE product lets you identify and use hardware-based Instant Snapshot copies. This ability takes advantage of quick hardware backup and restore facilities for local recoveries without the need for a quiesce. Instant Snapshots reduce elapsed time by 98% and virtually eliminate CPU time for copies.

**Copy Image Copies.** COPY PLUS can quickly make and register local and remote site copies after the primary copy has been made and registered. This capability supports offsite disaster recovery by allowing you to copy your image copy for use at recovery sites. As an added benefit, it also increases data availability and reduces the number of tape drives needed.

**Index Copies.** COPY PLUS makes synchronized index backups to speed index recoveries for application or disaster recovery. Recovering the index from a copy made by COPY PLUS can be significantly faster than rebuilding the index, particularly for large indexes. COPY PLUS can automatically determine whether or not to copy an index, based on a user-defined size threshold.

**LOB Support.** COPY PLUS natively supports the backup of DB2 Large Object (LOB).



## Safe

With COPY PLUS, you do not have to compromise data integrity for improved speed and functionality. Integrity checking is built into the core of COPY PLUS. In addition, copies made by COPY PLUS are fully recoverable with the DB2 RECOVER utility, as well as with the BMC Software RECOVER PLUS for DB2 product. Data integrity is enhanced with an intensive page-checking feature.

## MODIFY Command

By enabling comprehensive maintenance of the DB2 SYSCOPY table, the COPY PLUS MODIFY command further enhances the speed and availability improvements realized with COPY PLUS. The native MODIFY utility from IBM gives DB2 customers only limited ability to maintain information in the SYSCOPY table.

When used on a regular basis as a standard part of the DB2 backup process, the MODIFY command yields *up to a 60% reduction in elapsed time and up to an 80% reduction in CPU use*, compared to the native DB2 utility.

You can also use MODIFY to maintain the BMC Software BMCXCOPY table.

**Simplifying SYSCOPY Maintenance.** The COPY PLUS MODIFY command delivers a practical solution for organizations wanting unmatched access to all image copies and a consistently accurate SYSCOPY table.

MODIFY extends the capabilities of the MODIFY utility to enable you to perform the following tasks:

- > **Easily delete specific rows in the SYSCOPY table**—You can delete a specific, single row from SYSCOPY that refers to a bad or deleted image copy on disk or tape, without affecting any other rows in the table.

- > **Register image copies**—With the MODIFY command, you can add individual rows to SYSCOPY, making deleted image copies recognizable and accessible again by your application.
- > **Synchronize the ICF catalog and the SYSCOPY table**—With the MODIFY command, out-of-sync conditions between the DB2 SYSCOPY table and the ICF catalog, and the associated errors this can cause, are a thing of the past. You can use the MODIFY command to dynamically correct any discrepancies that it detects or to notify you that manual corrective action is necessary.

**Auditing Capabilities.** The MODIFY command provides SYSCOPY auditing capabilities with the VERIFY command. This auditing ensures that recoverability is maintained and that any recovery process is within expected limits. The COPY PLUS MODIFY command detects unrecoverable conditions, verifies that the data sets are cataloged, and provides user-defined thresholds for backup frequency by days, number of copies, and number of logs. With the VERIFY command, you can perform analysis for the local site, recovery site, or both. You can also use the MODIFY command to make image copies if any unrecoverable conditions are found.

**Ease of Use.** The MODIFY command provides an easy-to-use wildcard feature to simplify creation and maintenance of JCL, reducing required programmer maintenance as table spaces are added and deleted. The MODIFY command also manages the index image-copy registration table contained in COPY PLUS.

## A PERFORMANCE COMBINATION

COPY PLUS lets you perform the copy process faster, with improved database availability *and* the assurance of absolute data integrity during your database recoveries. Using the COPY PLUS MODIFY command lets you accurately maintain your SYSCOPY table while keeping it in sync with the image copies you need. COPY PLUS offers the best combination to streamline your DB2 recoveries with the most efficient use of your DASD resources.

## RECOVERY MANAGEMENT FOR DB2 SOLUTION

COPY PLUS remains an individual product, but it is also available as a component of the Recovery Management for DB2 solution. The Recovery Management for DB2 solution includes the following components:

- > RECOVERY MANAGER for DB2
- > RECOVER PLUS for DB2
- > COPY PLUS for DB2
- > Log Master for DB2
- > SNAPSHOT UPGRADE FEATURE for DB2

The Recovery Management for DB2 solution not only provides the features of the individual products, but it also integrates exclusive component technologies into more powerful and robust methods for backup and recovery of your data.

## WORLD CLASS SUPPORT

At BMC Software, we want our customers to succeed. We realize that our Recovery Management products are an integral part of your business-critical environment. That is why we provide comprehensive, best-of-breed customer support services 24 hours a day, 7 days a week. Whether you have a basic question or a complex product issue, our support services and expert technical analysts are available to effectively address your needs.

### Helping you maintain advantage

BMC Software Education Services offers a strategic investment for your business, maximizing the value for your employees and Business Service Management initiatives. Education ensures successful product implementation, promoting mastery of all product capabilities and highest productivity with your BMC Software solutions. To explore our education offerings, visit our web page at <http://www.bmc.com/bmceducation>, or contact BMC Software Education Services by telephone or e-mail:

- > **North America**  
Telephone: 800 574 4262  
E-mail: [education@bmc.com](mailto:education@bmc.com)
- > **Asia Pacific**  
Telephone: +61 3 9657 4404  
E-mail: [ISD\\_AP@bmc.com](mailto:ISD_AP@bmc.com)
- > **Europe, Middle East, and Africa (EMEA)**  
Telephone: 00800 26233822  
E-mail: [emea\\_education@bmc.com](mailto:emea_education@bmc.com)

### Helping you maintain advantage

BMC Software Education Services offers a strategic investment for your business, maximizing the value for your employees and Business Service Management initiatives. Education ensures successful product implementation, promoting mastery of all product capabilities and highest

#### About BMC Software

BMC Software, Inc. [NYSE:BMC], is a leading provider of enterprise management solutions that empower companies to manage their IT infrastructure from a business perspective. Delivering Business Service Management, BMC Software solutions span enterprise systems, applications, databases, and service management. Founded in 1980, BMC Software has offices worldwide and fiscal 2004 revenues of more than \$1.4 billion. For more information about BMC Software, visit [www.bmc.com](http://www.bmc.com).

productivity with your BMC Software solutions. To explore our education offerings, visit our web page at <http://www.bmc.com/bmceducation>, or contact BMC Software Education Services by telephone or e-mail:

- > **North America**  
Telephone: 800 574 4262  
E-mail: [education@bmc.com](mailto:education@bmc.com)
- > **Asia Pacific**  
Telephone: +61 3 9657 4404  
E-mail: [ISD\\_AP@bmc.com](mailto:ISD_AP@bmc.com)
- > **Europe, Middle East, and Africa (EMEA)**  
Telephone: 00800 26233822  
E-mail: [emea\\_education@bmc.com](mailto:emea_education@bmc.com)



58255